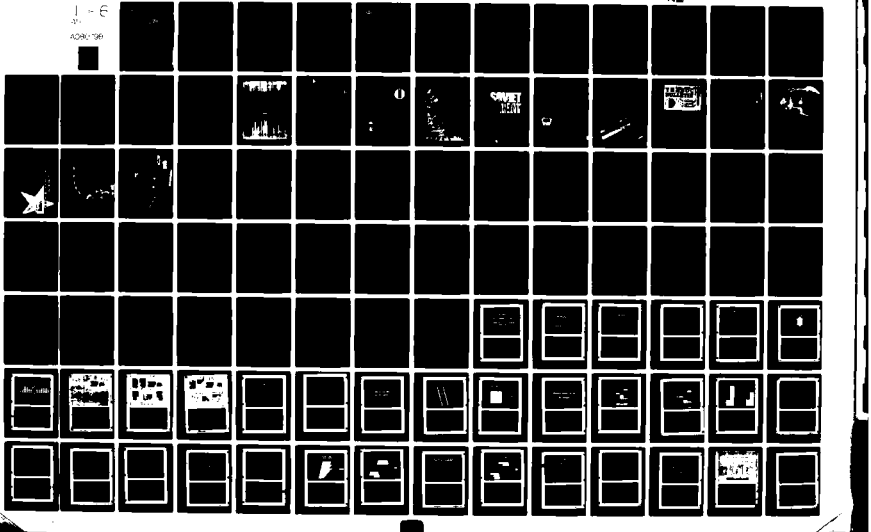
AD-A080 799 ARMY TRAINING DEVELOPMENTS INST FORT MONROE VA F/G 5/9
PROCEEDINGS OF THE TRADOC CHIEFS OF ANALYSIS SEMINAR (3RD) HELD--ETC(U)
JAN 80

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DEPARTMENT OF THE ARMY
TRAINING DEVELOPMENTS INSTITUTE
FORT MONROE, VIRGINIA 23651

ATTNG-TDI-ORA

25 January 1980

SUBJECT: Letter of Transmittal, Proceedings of the TRADOC Chiefs of Analysis Seminar, 15-17 January 1980

TO: Seminar Attendees

LEVEL II

1. The proceedings of the third TRADOC Chiefs of Analysis Seminar (Themes: Integration of Threat into Training Development, New Equipment Training Development, Extended (Soft Skill) Analysis) is forwarded for your information, use and retention for current and future requirements.

2. Due to crucial and timely nature of these subject discussions/presentations they are provided in their entirety for empirical purposes and to avoid misinterpretation of the data/facts provided.

1 Incl
as

F. A. NERONE
Colonel, IN
Director

CF:
DDC (15)

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REPORT DOCUMENTATION PAGE

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1. REPORT NUMBER	2. GOVT ACCESSION NO. / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle): Proceedings of the TRADOC Chiefs of Analysis Seminar	5. TYPE OF REPORT & PERIOD COVERED: Periodic (Jan 80)
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7. AUTHOR(s): Occupational Research and Analysis Division Staff	8. CONTRACT OR GRANT NUMBER(s)
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11. CONTROLLING OFFICE NAME AND ADDRESS: Training Development Institute, ATTNG-TDI, Fort Monroe, VA 23651	12. REPORT DATE: 25 Jan 80 13. NUMBER OF PAGES: 495
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Needs Assessment	Critical Task Selection	Enlisted Training Strategy
Job Analysis	Hard Skill Analysis	Evaluation/Analysis
Task Analysis	Soft Skill Analysis	Intercommand Coordination
Learning Analysis	Common Tasks	
Task Inventory	Site Selection	

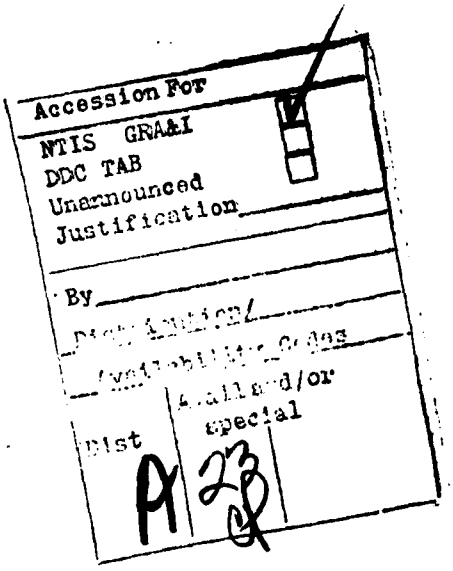
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The proceedings represent the presentations made at the Third TRADOC Chiefs of Analysis Seminar held at the Hampton Holiday Inn, Hampton, VA., 15-17 Jan 80. The Seminar themes included: Integration of Threat Into Training Developments New Equipment training Development, and Extended (Soft Skill) Analysis. The sponsor of this seminar is the Occupational Research & Analysis Division of TDI Fort Monroe, VA 23651. The presentations do not necessarily reflect official TRADOC views on the subject. The intent of the seminar is to permit the servic

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and invited speakers to present their sponsors on varied subjects in order to enhance the Army's job/task analysis efforts.



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DEPARTMENT OF THE ARMY
TRAINING DEVELOPMENTS INSTITUTE
FORT MONROE, VIRGINIA 23651

(11) 25 Jan 80

ATTNG-TDI-ORA

(6) PROCEEDINGS OF THE TRADOC CHIEFS OF ANALYSIS SEMINAR (3rd) held
15-17 January 1980,
Hampton, Virginia.

1. The third TRADOC Chiefs of Analysis Seminar was held at the Hampton Holiday Inn, Hampton, VA, on 15 thru 17 January 1980. The major themes of this seminar were "Integration of Threat Into Training Development, New Equipment Training Development, and Extended (Soft Skill) Analysis", however, other topics requested at a previous seminar and subsequent to that time were incorporated in the agenda items.

2. The sponsor for this seminar was the Occupational Research and Analysis Division (ORAD), of the Training Developments Institute (TDI), Fort Monroe, VA 23651 (Telephone: Comm 804-727-3608, AV 680-3608)).

3. The purpose of the Chiefs of Analysis seminars is to provide a forum in which the TRADOC service school's chiefs of analysis can interact with their peers and the TRADOC agencies tasked with proponency for job and task analysis policy and training (ORAD, TDI).

4. Seminar presentations are provided in their entirety for empirical purposes and to avoid misinterpretation of the data/facts provided.

5. The presentations are not meant to reflect official TRADOC views on the subjects. The intent of these seminars is to permit the service schools and invited speakers to present their opinions on varied subjects and solicit feedback so as to better our analysis efforts.

6. The agenda for this seminar is inclosure 1. List of attendees is inclosure 2.

7. Executive Summary of the Presentations:

a. Welcome/Opening Remarks (COL F. A. Nerone, Director, Training Developments Institute. LTC Brad Walton, Chief, Occupational Research and Analysis Division): COL Nerone welcomed the seminar attendees to Hampton VA for the third TRADOC Chiefs of Analysis Seminar. LTC Walton presented an overview and discussed the themes (Integration of Threat into Training Developments, New Equipment Training Development, and extended (Soft Skill Analysis) of the seminar.

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b. Critique of TRADOC Regulation 351-4, Pam 351-4, and Job and Task Analysis Workshop Materials (LTC Walton): This session was held to obtain feedback from the attendees on the usage of the Pam and Workshop. Also addressed were how the workshop is being administered and problems encountered with/suggestions for improving the PAM.

c. Role of the Threat Manager in Training Development (MAJ Howard Hansen, DCSDOC, TRADOC) MAJ Hansen presented a description of the kind and type of threat support DCSDOC and the threat manager can provide to the training developers. He described how threat is the underlying driver for training development; services the threat manager can provide (threat data dissemination; review of training develop- [illegible] provide recommendations); and functions of the threat committee. [illegible] the current threat situation. Supporting narrative and slides are inclosure 3.

d. Integration of Threat into Training Developments at the Chemical School (MAJ Frank Cox, Chemical School): MAJ Cox presented the chemical schools approach for providing the analysts information on threat to be used in developing training literature. The presentation focused upon how NBC threat is integrated into EPM, ARTEP, SQT, and thus into the schools training strategy. Presentation outline and supporting slides are inclosure 4.

e. COMMANDANTS Training Strategy (Mr. John Myers, Signal School): Mr. Myers presented a video tape recording of MG William J. Hilsman, Commander, USASC, discussing the Signal School's training strategy. In the VTR, MG Hilsman addresses NCO training, MILPERCEN support, CMF restructuring, program resourcing, and MACOM coordination. Supporting narrative and slides are inclosure 5.

f. Branch Training Teams Assistance (LTC Craig Gorcys, Dir of Eval, TRADOC): LTC Gorcys presented an overview of the mission of the Directorate of Evaluation. He explained the organization and missions of Branch Training Teams. Supporting documentation and slides are inclosure 6.

g. Discussion of TRADOC Training Development Glossary and Supplement to AR 611-3 (AOSP) (Dr. Al Longo, ORAD): Dr. Longo discussed the need for a single document which defines key terms and abbreviations used within the training development community. He discussed several examples from the glossary. Supporting narrative and slides are inclosure 7.

h. Overview of LCSMM (Mr. Bernard Silverberg, ORAD): Mr. Silverberg defined the purpose of and what is included within the Life Cycle System Management Model. He described each of the four major segments (phases) of the model (Exploration of Alternative System Concept Phase, Demonstration and Validation Phase, Production and Deployment Phase). Each major step within the phases was defined and explained in relation to its supporting elements. Supporting slides are inclosure 8.

i. LSA/LSAR Overview (Mr. Dick Myers, MRSA): Mr. Myers described the history and purposes of the Logistic Support Analysis. He identified those LSAR input sheets and output summaries used in training development (C, D, E and G data sheets and LSAR 14 output summary). Also described were future plans for modifing/expanding the existing LSA/LSAR into a more useable format for the analyst to work from. Supporting narrative and slides are inclosure 9.

j. Skill Performance Aids (MAJ Frank Moen, ATSC): MAJ Moen gave a description of SPAS and its integration within ETM. He discussed the LSA/LSAR products used in developing SPAS and explained the steps in developing ETM (data collection, selecting tasks for ETM , grouping tasks, lesson design approach). Presentation outline and supporting slides are inclosure 10.

k. Collective - Individual Analysis Interface (MAJ George Terrell, ATB): MAJ Terrell identified the necessity for a collective - individual analysis interface model. He explained how he modified and integrated the collective analysis from 310-8 (draft) and the individual analysis from 351-4 (T) into a functional interface. He went on to describe integration sequence variations of this model. Supporting outline and flowcharts are inclosure 11.

l. Training Requirements Analysis Systems/Individual Training Plan (MAJ Charles Bevard, TRAD, TRADOC): MAJ Bevard discussed the history leading up to development of the Individual Training Plan. He described the development of the Training Requirements Analysis System and the ITP model. He also described future plans and milestones for the ITP system. Supporting slides are inclosure 12.

m. Computer Utilization in SF Critical Task Seletion (LTC Fred Browning, IMA): LTC Browning presented IMAs approach to computer assisted task selection for Special Forces 12B MOS. He described how they staffed the task selection board. He explained the procedures of collecting data and models used for critical task selection. Supporting slides are inclosure 13.

n. Creeping Time Criterion (MAJ Jeff Nelson, PMD): MAJ Nelson presented a paper describing the relevancy of time as a task standard. He presented a decision table to use for determining when time can be used as a valid standard. Supporting documentation is inclosure 14.

o. Job Performance Aid for Job Performance Aids (MAJ Nelson): MAJ Nelson presented a decision table to use for determining when a job performance aid should be developed. He demonstrated this table using various situations and examples. Supporting documentation and slides are inclosure 15.

p. Design of Training for the Restructured CMF 63. (Mr. Russ Seese, Ordnance School): Mr. Seese discussed Design's contribution to the Systems Mechanic Program at the Ordnance School. The school's approach is one of continuing reinforcement of basic maintenance skills and knowledges. He also discussed development of the terminal learning objectives and intermediate objectives along with their associated learning steps in relation to the overall design structure. Supporting narrative is inclosure 16.

q. Results of the Integration of Threat into Training Development Work Group Session (MAJ Jim Bryant, CAC; Mr. Dutch Greene, LOGCEN; LTC Joe Dieduardo, ADMINCEN): Results of this session are inclosure 17.

r. Interviewing for Job and Task Analysis (SSG Jerry Hale, ORAD): SSG Hale described how ORAD, from its feedback from the schools, recognized the need for interview training at the analyst level. In response to this need, a draft one-day interviewing workshop was developed. A description of the workshop contents was discussed. Supporting slide is inclosure 18.

s. Job Competency Approach (Dr. Lyle Spencer, McBer & Co): Dr. Spencer discussed an approach to extended (soft skill) analysis that addresses competency assessment (i.e., elements of job versus competencies of persons who do the job well). This approach identifies the most effective performers a job; studies what these people actually do that distinguishes them from individuals whose performance is less satisfactory; and identifies the specific skills abilities, or characteristics that are responsible for this difference. Dr. Spencer's paper on this subject is inclosure 19.

t. Extended Analysis (MAJ Bob Begland, ORAD): MAJ Begland discussed the previous efforts involved with the analysis of soft skills. He discussed the existing procedures in the Inter Service Model for job and task analysis and how these procedures are inadequate for analysis of soft skills. He described the model presently under development, how it works, and milestones for the future. Supporting slides are inclosure 20.

u. Skills and Knowledges (SSG Hale): SSG Hale discussed the development, by ORAD, of a series of modules (SK-111 and SK-11) on the description and use of skills and knowledges. These modules were designed as an addition to the existing Job and Task Analysis Course. Contents of these modules were discussed along with implications for future use. Supporting slides are inclosure 21.

v. Functional Literacy (COL Phil Merrick and Dr. Ron Spangenberg, TRADOC BSEP Task Force): COL Merrick described the need in the Army for Basic Skill Education Programs, BSEP. Four Basic types of programs (Front loaded on AIT; Front loaded on BT/OSUT; Concurrent with AIT; Integrated with AIT) and expectations of the program. Dr. Spangenberg discussed the Needs Analysis identifying the baseline skill training requirements for 146 MOS; Learning Analysis identifying training requirements; Word Frequency/Criticality Analysis of the POIs for the 146 MOS; and grouping MOS with similar requirements. Supporting slides are inclosure 22.

w. Skill and Knowledge Survey Data (CDR Fred Hawrysh, Canadian Forces): CDR Hawyrsh described the structure of occupational analysis in the Canadian Forces. He described their methodology as one of incorporating skill and knowledge inventories into survey questionnaires. Contents and analysis of these surveys were discussed. Supporting narratives and slides are inclosure 23.

x. Task Force Approach to Training Development (Dr, Francis Rose, Transportation School): Dr. Rose presented an alternate model to School Model '76. The model advocates a training developments task force that takes training development through all four phases (analysis, design, development, and implementation). The heart of the task force

team will be SME clusters. The SMEs stay with and implement the programs in the school. Dr. Rose's supporting paper on this subject is inclosure 24.

24 Incl
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BRADFORD L. WALTON
LTC, IN
C, OR&A Div

CF:
Seminar Attendees (1 ea)
Defense Documentation
Center (1)

TRAINING DEVELOPMENTS INSTITUTE
OCCUPATIONAL RESEARCH AND ANALYSIS DIVISION
FORT MONROE, VIRGINIA 23651
CHIEFS OF ANALYSIS SEMINAR AGENDA
15-17 JANUARY 1980

TIME	TITLE	PRESENTER	AGENCY
TUESDAY			
15 Jan			
8:15	Welcome and Opening Comments	COL Nerone LTC Walton	TDI
8:30	Critique of TRADOC Reg 351-4, Pam 351-4, and J&TA Workshop Materials		
9:30	Break		
10:00	Role of the Threat Manager In Training Development	MAJ Hanson	TRADOC
10:30	Threat and Doctrine Integration at the Chemical School	MAJ Cox	Chemical School
11:00	Integration of Threat into Training Development at the Schools (Work Group Session)	MAJ Begland	ORAD
12:00	Lunch		
13:30	COMMANDANTS Training Strategy	John Meyers	Signal School
14:30	Break		
15:00	Branch Training Team Assistance	LTC Gorcys	TRADOC Eval
15:30	Discussion of TRADOC Training Development Glossary and Supplement to AR 611-3 (AOSP)	DR Al Longo	ORAD
16:00	First Day Concluding Comments/ Remarks	LTC Walton	
17:00	Cocktail Hour		

TIME	TITLE	PRESENTER	AGENCY
WEDNESDAY			
16 Jan			
8:00	Overview of LCSMM	Bernie Silverberg	ORAD
8:30	LSA/LSAR Overview	Dick Myers	MRSA
9:30	Break		
10:00	Skill Performance Aids	MAJ Moen	ATSC
10:45	Collective-Individual Analysis Interface	MAJ Terrell	ATB
11:15	Lunch		
12:45	Training Requirements Analysis System/Individual Training Plan	MAJ Bevard	TRAD
13:15	Computer Utilization in SF Critical Task Selection	LTC Browning	IMA
13:45	Creeping Time Criterion	MAJ Nelson	TDI
14:00	Break		
14:30	Job Performance Aid for Job Performance Aids	MAJ Nelson	TDI
15:00	Design of Training for the Restructured CMF 63	Russ Seese	ORD School
15:30	Results of the Integration of Threat Into Training Development Work Group Session	MAJ Begland	ORAD
16:00	Second Day Concluding Comments/ Remarks	LTC Walton	

CONCURRENT TRAINING SESSION

Concurrent Training Session for the working analysts conducted by SSG Hale of OR&A Division, Location is in Suite 600.

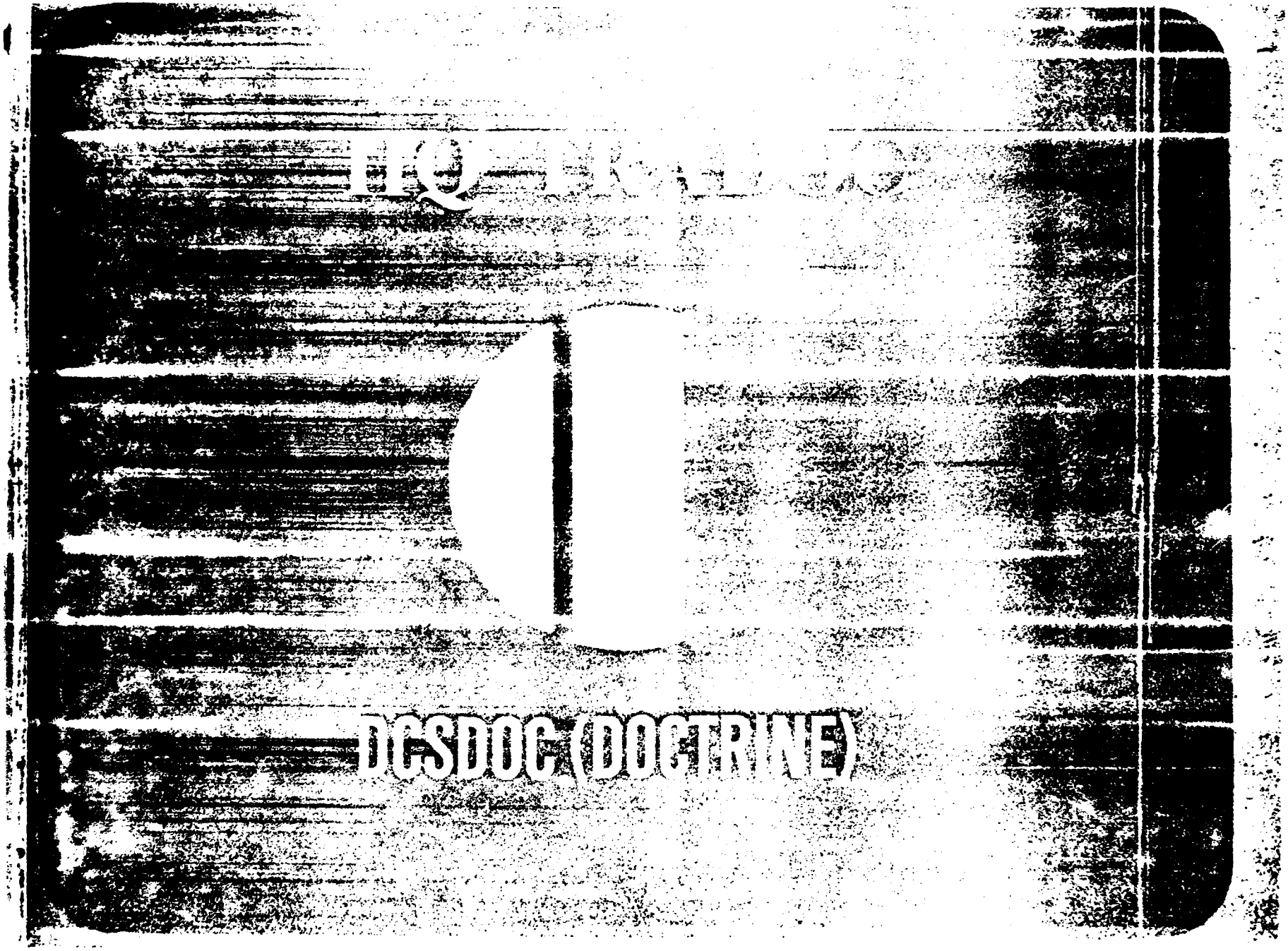
TIME	TITLE	PRESENTER	AGENCY
THURSDAY			
17 JAN			
8:00	Interviewing for Job and Task Analysis	SSG Hale	ORAD
8:30	Job Competency Approach	Dr Lyle Spencer	McBer
9:30	Break		
10:00	Extended Analysis	MAJ Begland	ORAD
10:30	Skills and Knowledges	SSG Hale	ORAD
11:00	Functional Literacy	COL Merrick DR Spangenberg	TRADOC BSEP Task Force
11:45	Lunch		
13:00	Skill Knowledge Survey Data	CMDR Hawrysh	Canadian Forces
13:30	Task Force Approach to Training Development	Dr Rose	Transportation School
14:30	Break		
15:00	Small Group Discussion on the Schools Systematic Approach to Training	MAJ Begland SSG Hale Bernie Silverberg	ORAD
16:00	Seminar Wrap-up, Comments/ Remarks	LTC Walton	

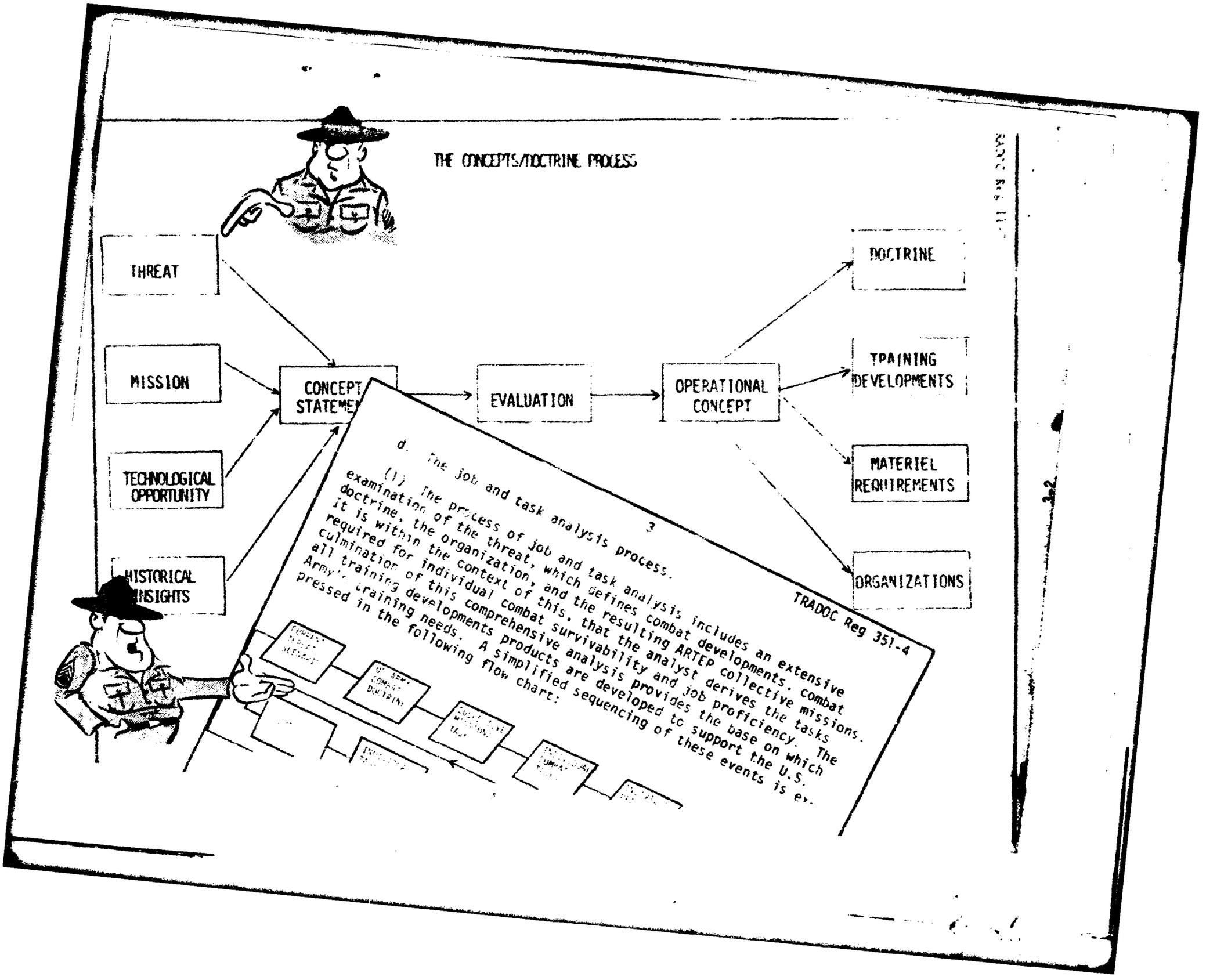
ATTENDEES
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ADMIN CEN	Mr. John B. Brady	ATZI-TD-ISD-OCC	699-4269
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AHS	MAJ William Charlton	HSA-TII	471-3144
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ARI	Ms Sally J. VanNostrand	PERI-IM	284-8293
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ARMOR	MAJ Richard S. Smith	ATSB-TD-ID	464-6528
ARMOR	Mr. Gary Priest	ATSB-TD-ID	464-7034
ARTY	MAJ John S. Duty	ATSF-TD-TS	639-3092
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ARTY	Ms. Martha M. Porter	ATSF-CT-FD	639-3267
ARTY	Mr. Taft Joseph	ATSF-TD-IT	639-3092
ATB	MAJ George H. Terrell	ATTSC-ATB-CT	927-4531
ATSC	MAJ Fank Moen	ATTSC-DS-SPA	927-4871
ATSC	Mr. John Klesch	ATTSC-DS-SPA	927-4871
AVN	CPT Victor M. Sathre	ATZQ-TED-TAD	558-6703
CAC	MAJ James W. Bryant	ATZL-TDA-AD	552-4498
CAC	CPT Fred S. Berry	ATZL-TDA-AD	552-4498
CF	CDR Fred Hawrysh (Canadian Forces)		672-7069
CGSC	MAJ William R. Sharp	ATZLSW-DECA-PA	552-3095
CHAP	CH (LTC) James M. Craig	ATSC-TD	992-3613
CHAP	CH (MAJ) Huey A. Bridgman	ATSC-TD-RETO	992-3513
CHAP	CH (MAJ) James W. Daniels	ATSC-TD-EPS	992-5635

CML	MAJ Ronald Beard	ATZN-CM-TDA	584-3553
CML	MAJ Mike E. Szlachetka	ATZN-CM-TDA	584-3787
CML	MAJ Frank J. Cox	ATZN-CM-TDC	584-3891
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M&M	MAJ Jesse C Brackett	ATSK-TD-PD	746-7464
M&M	Mr. James R. Rasbury	ATSK-TD-AD	746-5307
McBer	Dr. Lyle Spencer		617-261-5570
MILPERCEN	Mr. Roy B. Wethy	DAPC-MSP-SI	221-9083
MRSA	Mr. Dick Myers	DRXMD-EI	745-4118
MUSIC	SSG William J. O'Shell, Jr.	ATTNG-SM-DTD	927-9361
MUSIC	SSG William C. Jackson	ATTNG-SM-DTD	927-9361

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ORD	Mr. B. J. Russell Seese	ATSL-TD-TAD	283-5471
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QM	MAJ William Kling	ATSM-TD-TA-OT	687-1745
QM	MAJ H. S. Swofford	ATSM-TD-TA-OT	687-1745
QM	Mr. Jack McClelland	ATSM-TD-TA-IT	687-2140
SIG	CPT George Scott Place	ATZHTD-A-M-A/V	780-4895
SIG	Mr. John R. Myers	ATZHTD-A-O	780-7526
SMA	MAJ Howard M. Mills	ATSS-TD-ITAD	978-8274
SMA	SGM George P. Drake	ATSS-TD-ITAD	978-8011
TDI	LTC Brad Walton	ATTNG-TDI-ORA	680-3609
TDI	MAJ Bob Begland	ATTNG-TDI-ORA	680-3609
TDI	Dr. Al Longo	ATTNG-TDI-ORA	680-3609
TDI	Mr. Bernie Silverberg	ATTNG-TDI-ORA	680-3609
TDI	SSG Jerry Hale	ATTNG-TDI-ORA	680-3609
TRADOC	MAJ Howard K. Hanson, Jr.	ATDOC-TD-RS	680-3437
TRADOC	LTC Craig N. Gorcys	ATTNG-AE-E	680-3166
TRADOC	COL Phil Merrick	BSEP Study Gp	680-3310
TRADOC	Dr. Ron Spangenberg	BSEP Study Gp	680-3310
TRADOC	MAJ Charles Bevard	ATTNG-TIA	680-4441
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TRANS	MAJ John S. Branyon	ATSP-TD-SE	878-3440
TRANS	MAJ Stephen L. Etzel	ATSP-TD-SO	878-3837
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TRANS	MAJ C. Frank Smeeks	ATSP-TD-AT	878-3172
TRANS	Mr. Andrew Davis	ATSP-DAC-ET	878-3132
TRANS	MAJ John Tackett	ATSP-TD-AT	878-3006
TRANS	MS Mary Gibson	ATSP-TD-SO	878-1668
TRANS	CPT William T. Sawyer	ATSP-TD-SO	878-3837
TRANS	Mr. Melvin G. Alderman	ATSP-TD-S	878-2474


DCSDOC (DOCTRINE)

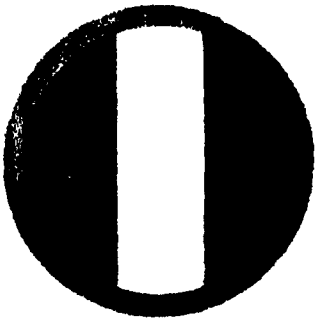

THE CONCEPTS/DOCTRINE PROCESS
THREAT
MISSION
TECHNOLOGICAL OPPORTUNITY
HISTORICAL INSIGHTS
CONCEPT STATEMENT
EVALUATION
OPERATIONAL CONCEPT
DOCTRINE
TRAINING DEVELOPMENTS
MATERIEL REQUIREMENTS
ORGANIZATIONS
d. The job and task analysis process.
(1) The process of job and task analysis includes an extensive examination of the threat, which defines combat developments, combat doctrine, the organization, and the resulting ARTEP collective missions. It is within the context of this, that the analyst derives the tasks required for individual combat survivability and job proficiency. The culmination of this comprehensive analysis provides the base on which all training developments products are developed to support the U.S. Army's training needs. A simplified sequencing of these events is expressed in the following flow chart:
TRADOC Reg 351-4
3-2

UNITED STATES ARMY TRAINING & DOCTRINE COMMAND

THREAT SUPPORT FUNCTIONAL STRUCTURE

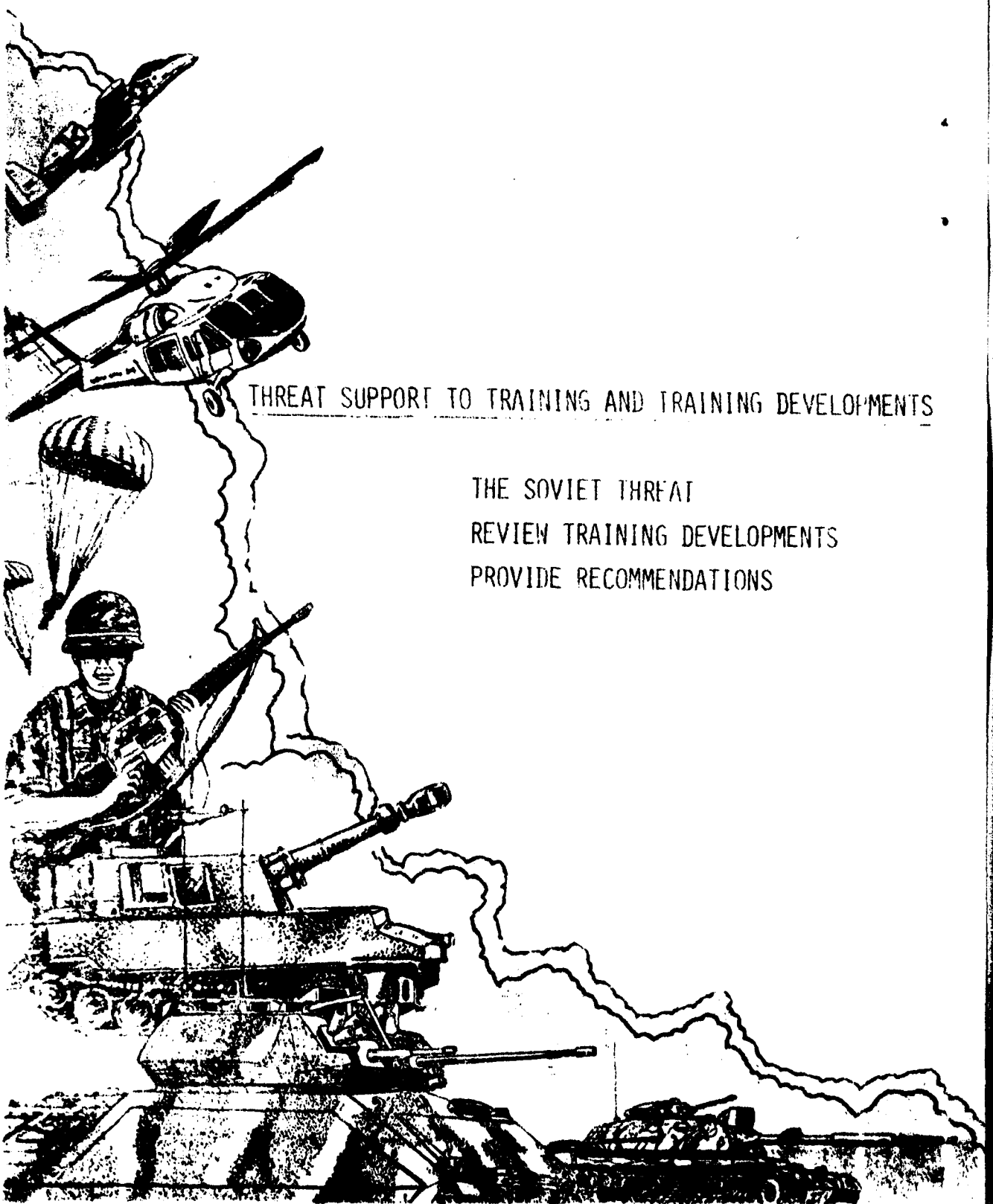
DCSDOC
THREAT DIRECTORATE

INTEGRATING CENTERS
AND
ASSOCIATED TRADOC
SCHOOLS AND ACTIVITIES



- COMBINED ARMS
  - AIR DEFENSE
  - ARMOR
  - AVIATION
  - CHEMICAL
  - ENGINEER
  - FIELD ARTILLERY
  - INFANTRY
  - INTELLIGENCE
  - MILITARY ASSISTANCE
  - MILITARY POLICE
  - SIGNAL
- LOGISTICS
  - MISSILE & MUNITIONS
  - ORDNANCE
  - QUARTERMASTER
  - TRANSPORTATION
- ADMINISTRATION
  - CHAPLAIN





THREAT SUPPORT TO TRAINING AND TRAINING DEVELOPMENTS

THE SOVIET THREAT

REVIEW TRAINING DEVELOPMENTS

PROVIDE RECOMMENDATIONS

THE SOVIET THREAT



PENDING DIA PUBLICATIONS

SOVIET ANTITANK WARFARE

SOVIET FIELD FORTIFICATIONS

CBR DEFENSE OF THE SOVIET GROUND FORCES

SOVIET TACTICAL AIR DEFENSE

THE SOVIET NAVAL INFANTRY

SOVIET TACTICAL COMMUNICATIONS

SOVIET AIRBORNE FORCES

SOVIET FIELD ARTILLERY TACTICS

THE SOVIET TANK DIVISION

SOVIET HELICOPTERS AND AIRMOBILE OPERATIONS

SOVIET TACTICAL RECONNAISSANCE

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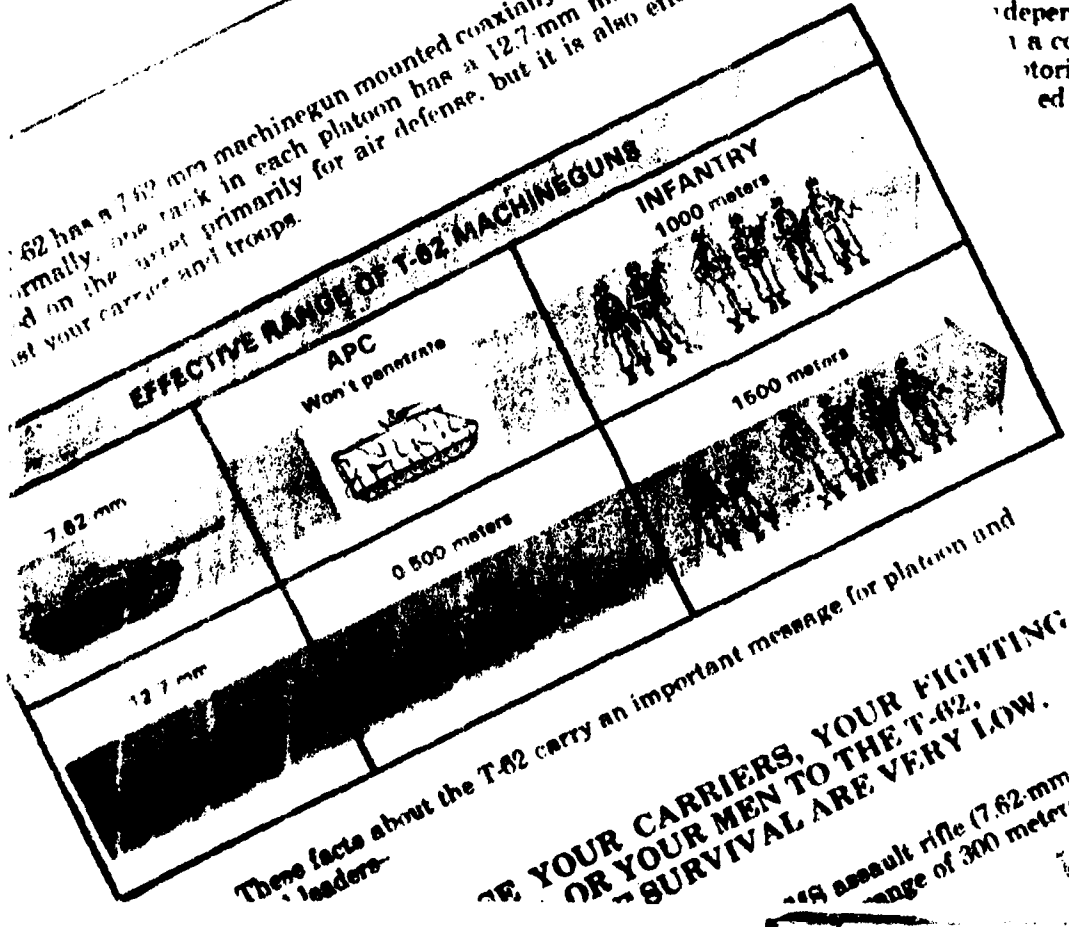
Section II.
HOW THE ENEMY ATTACKS

Enemy doctrine stresses the offense as the main element of combat action and views the defense as an element of combat which is at times necessary, but always temporary in nature. The concentrations of numerically superior forces and firepower for bination of frontal attacks, enveloping maneuvers, and deep rusts into the enemy rear by armor-heavy combined arms ceptual aims of the offense. This doctrine is design vigorous offensive action that visualizes a day in a conventional environment environment.

COMBINED ARMS

depend on the a combined torized rifle ed without

SERVES

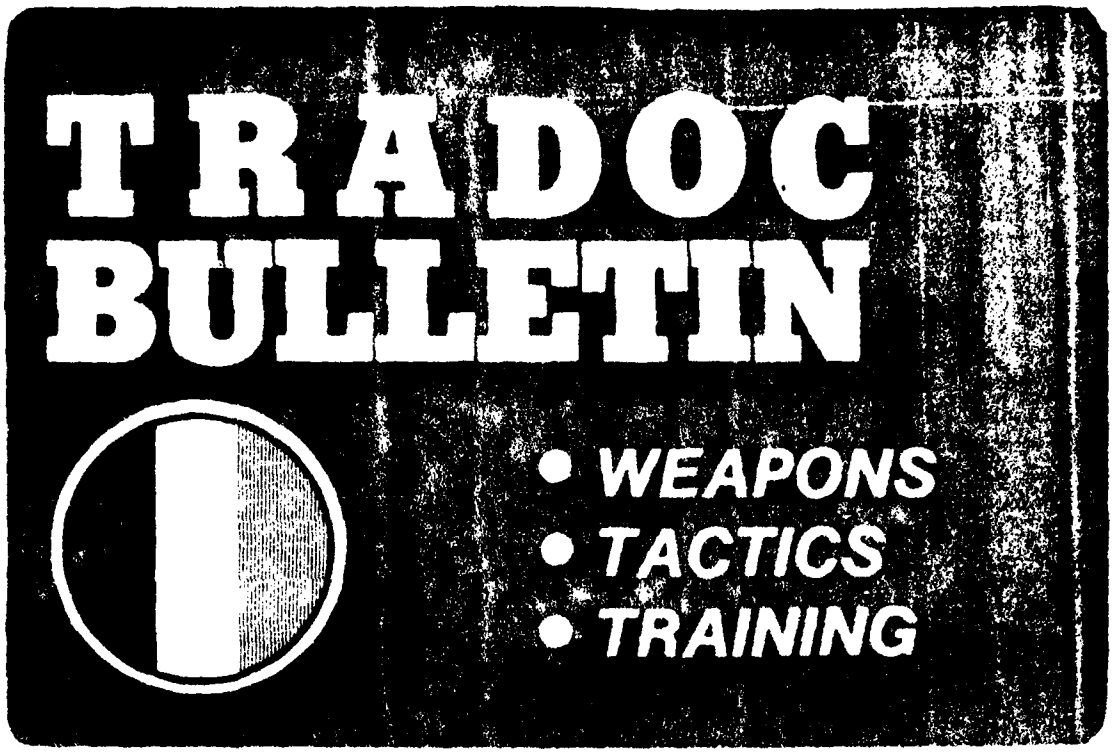


These facts about the T-62 carry an important message for platoon and leaders

E, YOUR CARRIERS, YOUR FIGHTING
OR YOUR MEN TO THE T-62.
SURVIVAL ARE VERY LOW.

assault rifle (7.62-mm) which has an range of 300 meters.

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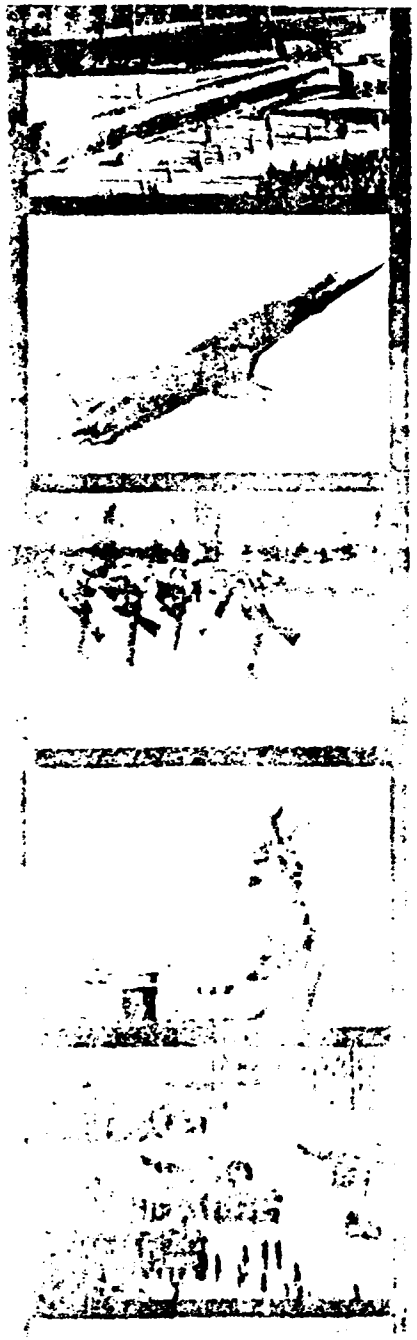
RANGE AND LETHALITY OF US AND SOVIET ANTIARMOR WEAPONS

SOVIET ATGM: CAPABILITIES AND COUNTERMEASURES

SOVIET RPG-7 ANTITANK GRENADE LAUNCHER

THE BMP: CAPABILITIES AND COUNTERMEASURES

THE SOVIET MAIN BATTLE TANK



SOVIET ARMY OPERATIONS MANUAL IAG-J3-U-78

DIA UPDATE

THREAT REFERENCE

A. DEFINITIVE

B. COMPREHENSIVE

C. MULTIVOLUME

(1) SOVIET ARMY COMBAT OPERATIONS

(2) SOVIET ARMY SPECIAL OPERATIONS

(3) SOVIET ARMY REAR AREA OPERATIONS



SOVIET ARMY COMBAT OPERATIONS

A. COMBAT ARMS

B. MBA

(1) MEETING ENGAGEMENT

(2) OFFENSIVE COMBAT

(3) DEFENSE

(4) WITHDRAWAL

C. NUCLEAR

D. NON-NUCLEAR

ТЫЛ и СНАБЖЕНИЕ СОВЕТСКИХ ВООРУЖЕННЫХ СИЛ



SOVIET ARMY SPECIAL OPERATIONS

A. COMBAT SUPPORT
B. COMBAT SERVICE SUPPORT
C. REAR AREAS
   (1) AIRBORNE
   (2) HELIBORNE
   (3) AMPHIBIOUS
   (4) UNCONVENTIONAL

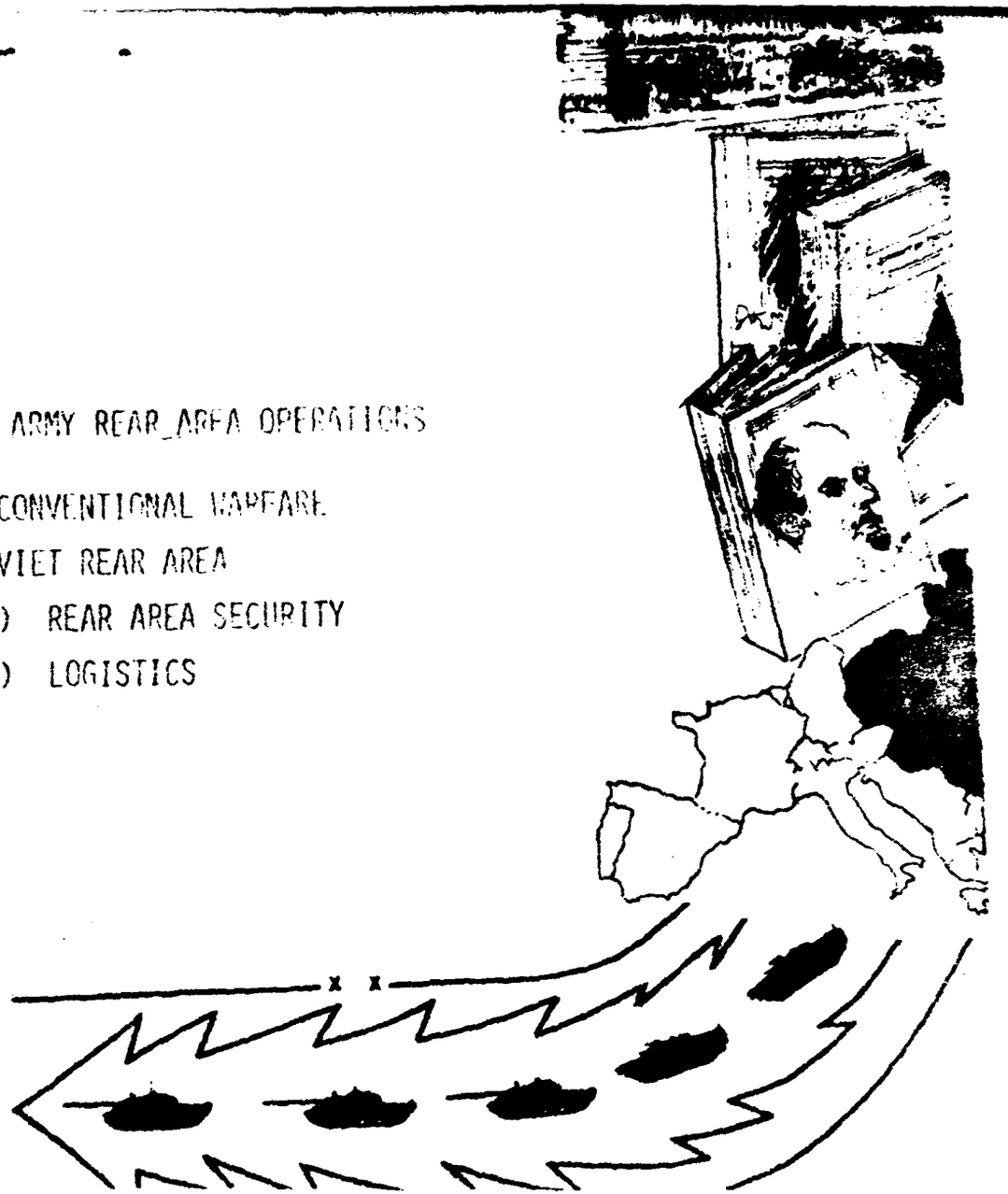
SOVIET ARMY REAR AREA OPERATIONS

A. UNCONVENTIONAL WARFARE

B. SOVIET REAR AREA

(1) REAR AREA SECURITY

(2) LOGISTICS



When using battlesight, the gun

of the target.

FRONT SLOPE ENGAGEMENT

- The center of vulnerability is halfway between Spots 1 and 2 (figure 28). Aiming at this point increases the chances for a target hit. If the projectile (or jet stream) penetrates at Spot 1, it will probably hit ammunition or fuel or both, causing internal fire and explosion.

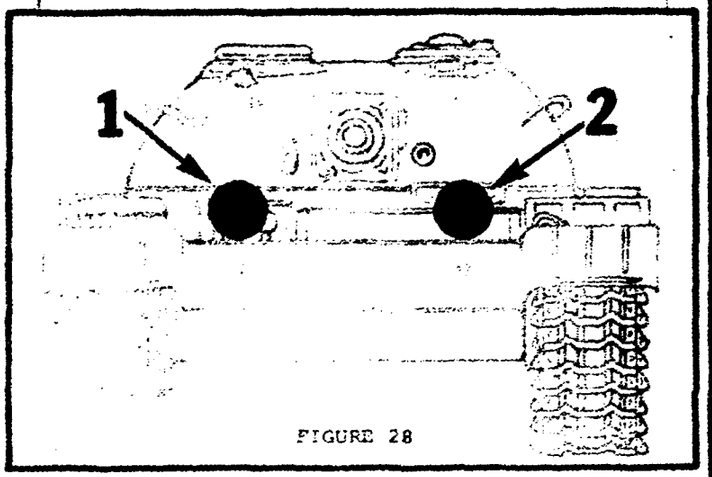


FIGURE 28

EDIUM TANK

3-15

T-
PL
IS
ON
T-62

Notes:

	2.4 M
	3.3 M
COAXIAL	115 MM GUN
MAX ARMOR	EST 2000 M*
CREW	12.7 MM MG
	7.62 MM MG
	200 MM
	4 MEN

THREAT SUPPORT TO TRAINING AND TRAINING DEVELOPMENTS

(SLIDE 1-DCSDOC)

THE DEPUTY CHIEF OF STAFF FOR DOCTRINE IS TRYING TO AUGMENT THE TRAINING DEVELOPMENTS PROCESS WITH A RESPONSIVE THREAT SUPPORT SYSTEM. DCSDOC, AMONG OTHER RESPONSIBILITIES, IS ATTEMPTING TO ASSURE THE VALIDITY, CONSISTENCY, AND ACCURACY OF THREAT PORTRAYED IN TRAINING AND TRAINING DEVELOPMENT PROGRAMS IN TRADOC. THIS IS BEING ACCOMPLISHED THROUGH AN AGGRESSIVE REVIEW OF PERTINENT PRODUCTS BEING DEVELOPED BY PREPARING AGENCIES. THREAT DEPICTED MUST BE APPROPRIATE, VALID, AND CONSISTENT THROUGHOUT THE TRAINING BASE, AND PORTRAYED AS AN INTEGRAL PORTION OF THE OVERALL TRAINING SUPPORT EFFORT. THIS RESPONSIBILITY APPLIES TO THE FULL RANGE OF TRAINING PROGRAMS AND DEVELOPMENTS; IT IS PREDICATED ON THE CONCLUSION THAT THREAT IS THE CRITICAL ELEMENT THAT MOTIVATES REALISTIC TRAINING. TRADOC REGULATION 11-7, OPERATIONAL CONCEPTS, WHICH ORIGINATES ARMY DOCTRINE, FORCE STRUCTURE, AND MATERIEL AND TRAINING REQUIREMENTS, AND YOUR OWN TRADOC REGULATION 351-4, JOB AND TASK ANALYSIS, BOTH DEMAND A COMPREHENSIVE UNDERSTANDING AND REVIEW OF THE SOVIET THREAT AS A BASIC AND INHERENT STEP IN EACH RESPECTIVE DEVELOPMENTAL PROCESS.

(SLIDE 2-THE CONCEPT DOCTRINE AND JOB AND TASK ANALYSIS PROCESS)

DCSDOC SUPPORTS THESE RESPONSIBILITIES THROUGH A SYSTEM OF THREAT MANAGERS AT PERTINENT TRADOC SCHOOLS, ACTIVITIES, AND INTEGRATING CENTERS.

(SLIDE 3-TM SYSTEM)

EACH RESPECTIVE THREAT MANAGER IS THE SINGLE POINT OF CONTACT AT EACH INSTALLATION FOR ALL MATTERS PERTAINING TO THREAT. AN INORDINATE AMOUNT OF EVERY THREAT MANAGERS TIME IS EXPENDED ON THE MATERIEL ACQUISITION PROCESS, AND AT MOST INSTALLATIONS THE THREAT MANAGER IS INDEED SUBORDINATE TO THE DIRECTOR OF COMBAT DEVELOPMENTS. NEVERTHELESS, THE THREAT MANAGERS ARE FUNCTIONALLY

RESPONSIBLE TO PROVIDE ADEQUATE SUPPORT TO THE TRAINING DEVELOPMENTS PROCESS. AT MOST INSTALLATIONS THIS IS ACCOMPLISHED THROUGH THE ROUTINE MEETING OF A THREAT COMMITTEE. THIS COMMITTEE SHOULD CONSIST OF REPRESENTATIVES FROM VARIOUS ORGANIZATIONS OF THE INSTALLATION, PARTICULARLY IN YOUR SITUATION, TRAINING DEVELOPERS. THEY MEET PERIODICALLY WITH THE THREAT MANAGER FOR THE PURPOSE OF COORDINATING THREAT INFORMATION AND INSTRUCTION THROUGHOUT THE INSTALLATION. (SLIDE 4-THREAT SUPPORT TO TRAINING AND TRAINING DEVELOPMENTS)

THIS MORNING I'D LIKE TO DISCUSS WHAT KIND AND TYPE OF THREAT SUPPORT DCSDOC AND THE THREAT MANAGERS CAN PROVIDE TO TRAINING AND TRAINING DEVELOPMENTS. PARTICULAR EMPHASIS MUST BE DIRECTED TO THE TERM "SUPPORT." IT MUST CONNOTATE THAT THE INDIVIDUAL THREAT MANAGER CANNOT DO THE REQUISITE SOVIET THREAT ANALYSIS FOR YOU IN JOB AND TASK ANALYSIS. THE THREAT POSED BY THE SOVIET MILITARY MUST BE AN INHERENT PORTION OF THE TRADOC TRAINING DEVELOPMENTS PROCESS, JUST AS IS US ARMY COMBAT DOCTRINE. THIS IS THE ONLY WAY CRITICAL INDIVIDUAL AND COLLECTIVE TASKS CAN BE BEST DISPLAYED IN SOLDIER'S MANUALS, COMMANDER'S MANUALS AND THE ARMY TRAINING AND EVALUATION PROGRAMS. THE THREAT MANAGER CAN ASSIST YOU IN THIS PROCESS BY PROVIDING PERTINENT THREAT INFORMATION, MAINTAINING A THREAT DATA BASE, AND DISSEMINATING CURRENT THREAT INFORMATION APPLICABLE TO TRAINING. WE'LL DISCUSS THE TYPE OF DATA AVAILABLE TO YOU AND WHAT'S BEING DONE TO IMPROVE IT IN A MOMENT. MORE IMPORTANTLY THE THREAT MANAGER WILL REVIEW TRAINING DEVELOPMENTS TO ASSURE THAT PROPONENTS CONSIDER THE PERTINENT THREAT IN MISSION AND TASK ANALYSIS, TRAINING OBJECTIVE DEVELOPMENT, AND THE DEVELOPMENT OF CRITICAL TASK LISTS, AND MAKE APPROPRIATE RECOMMENDATIONS.

LET ME EMPHASIZE AGAIN THAT THE PREPARATION OF A SPECIFIC THREAT FOR TRAINING ACTIONS IS THE RESPONSIBILITY OF THE DIRECTORATE OR ACTIVITY OF THE

PROPONENT CENTER OR SCHOOL HAVING RESPONSIBILITY FOR THE ACTION. THEREFORE, THE THREAT MANAGER SHOULD BE SOUGHT OUT IMMEDIATELY IN THE TRAINING DEVELOPMENTS PROCESS, SINCE HE CAN ELIMINATE CONFUSION BY IDENTIFYING PERTINENT THREAT DOCUMENTATION AND PUBLICATIONS GERMANE TO YOUR NEEDS. THIS APPLICABLE THREAT MUST BE ANALYZED FOR CRITICAL REQUIREMENTS AS PART AND PARCEL OF THE JOB AND TASK ANALYSIS. PROPER INTEGRATION OF THREAT IN SOLDIER'S MANUALS AND ARTEP, FOR EXAMPLE, IS OBVIOUSLY THE MOST EFFECTIVE AND REMUNERATIVE VEHICLE TO INJECT REALISM IN TRAINING. PARTICULAR ATTENTION AND THOUGHT, HOWEVER, IS REQUIRED TO DEPICT MISSION ESSENTIAL THREAT KNOWLEDGE REQUIREMENTS IN INDIVIDUAL MOS SOLDIER'S MANUALS AND RESPECTIVE UNIT ARTEP. SOLDIER'S MANUALS, FOR EXAMPLE, SHOULD DELINEATE THE INDIVIDUAL SOLDIER'S REQUIREMENTS FOR SOVIET OR NATO VEHICLE, AIRCRAFT, OR OTHER EQUIPMENT RECOGNITION KNOWLEDGE, AND REQUIRE UNDERSTANDING OF APPLICABLE SOVIET TACTICS, VULNERABILITIES, AND CAPABILITIES. ARTEP SHOULD EXPLOIT THIS KNOWLEDGE IN THE COLLECTIVE TRAINING ENVIRONMENT THROUGH THE PORTRAYAL OF REALISTIC THREAT TASKS, CONDITIONS, AND STANDARDS. PERFUNCTORY USE OF THREAT IN ANY TRAINING LITERATURE IS TO BE AVOIDED.

(SLIDE 5-SOVIET THREAT)

THREAT DATA TO SUPPORT TRAINING IS IMPROVING RAPIDLY. THE COMBAT ARMS DISCIPLINES ARE EXTENSIVELY SUPPORTED, AND EFFORTS ARE IN PROGRESS TO BETTER THE SUPPORT TO COMBAT SUPPORT AND COMBAT SERVICE SUPPORT TRAINING DEVELOPERS. THE PRINCIPLE REQUIREMENT IS FOR UNCLASSIFIED INFORMATION. THE DEFENSE INTELLIGENCE AGENCY, FOR EXAMPLE, IS EXPLOITING ALL AVAILABLE OPEN SOURCE LITERATURE TO PRODUCE A SERIES OF STUDIES ON THE SOVIET GROUND FORCES TO SUPPORT TRAINING. THIS UNCLASSIFIED DATA BASE IS SUFFICIENTLY DETAILED AND PRECISE TO SUPPORT US GROUND FORCES IN THE DEVELOPMENT OF DOCTRINE AND TACTICS, AND FOR USE IN TRAINING.

(SLIDE 6-DIA PUBLICATIONS)

I'VE INCLUDED IN YOUR INFORMATION PACKET AN ANNOTATED LISTING OF THE APPLICABLE UNCLASSIFIED DIA STUDIES THAT HAVE BEEN DISTRIBUTED ARMYWIDE. THEY ARE AVAILABLE THROUGH NORMAL ADJUTANT GENERAL DISTRIBUTION CHANNELS OR THROUGH YOUR THREAT MANAGER.

A REVIEW OF THE SOVIET GROUND FORCES IS ALSO PUBLISHED PERIODICALLY BY DIA TO PROVIDE UNCLASSIFIED CURRENT INFORMATION ON THE SOVIET GROUND FORCES TO SUPPORT THE US ARMY. IT PROVIDES UP-TO-DATE INFORMATION ON A WIDE VARIETY OF TOPICS OF GENERAL INTEREST. IT CONSISTS OF DIA TRANSLATIONS OF SELECTED RECENT ARTICLES FROM THE SOVIET MILITARY PRESS AND BACKGROUND ARTICLES WRITTEN BY DIA ANALYSTS. SPECIAL ATTENTION IS GIVEN TO SOVIET TACTICS, TRAINING, AND EQUIPMENT; AND BACKGROUND INFORMATION ON SPECIFIC SOVIET DIVISIONS AND OTHER UNITS/ ORGANIZATIONS ARE PRESENTED. IT SHOULD BE PARTICULARLY USEFUL FOR CONDUCTING UNIT-LEVEL TRAINING.

THE FOLLOWING UNCLASSIFIED DIA INTELLIGENCE DOCUMENTS ARE SCHEDULED FOR PUBLICATION DURING THE NEXT CALENDAR YEAR.

(SLIDE 7-FUTURE PUBLICATIONS)

THE INTELLIGENCE AND THREAT ANALYSIS CENTER, INSCOM, COMPLETED SOVIET ARMY OPERATIONS IN APRIL 1978. IT IS DESIGNED TO PROVIDE AN ACCURATE REPRESENTATION OF SOVIET MILITARY OPERATIONS WITH SPECIFIC EMPHASIS ON TACTICS, DOCTRINE, AND COMBINED ARMS OPERATIONS. IT WAS DEVELOPED FOR USE BY THREAT INSTRUCTORS AT US ARMY SERVICE SCHOOLS AND FOR USE AS AN S2 REFERENCE DOCUMENT ON TACTICAL UNIT TRAINING DEVELOPMENTS.

(SLIDE 8-FM 30-102)

FM 30-102, OPPOSING FORCES EUROPE, 18 NOVEMBER 1977, IS THE KEYSTONE FIELD MANUAL OF THE SOVIET MODULE OF THE OPFOR PROGRAM. IT IS DESIGNED TO

PROVIDE REALISM FOR TRAINING; TO ADD INTELLIGENCE EMPHASIS TO TRAINING; AND TO PROVIDE AN UNCLASSIFIED DATA BASE FOR TRAINING DEVELOPMENTS. IT IS CURRENTLY THE DEFINITIVE BASIS TO INTEGRATE THE SOVIET MODULE OF THE OPFOR PROGRAM INTO TRAINING AND TRAINING LITERATURE. IT IS PARTICULARLY APPLICABLE TO SOLDIER'S MANUALS AND ARTEP.

(SLIDE 9-"HOW TO FIGHT")

THE "HOW TO FIGHT" MANUALS SET FORTH THE BASIC CONCEPTS OF US ARMY DOCTRINE. THREAT IS THE FOCAL POINT OF EACH PUBLICATION, AND AS SUCH PROVIDE THE UNDERLYING SUPPORT FOR A TRAINING DEVELOPMENTS PROGRAM. THEY PROVIDE THE IMPETUS FOR TRAINING AND COMBAT DEVELOPMENTS THROUGHOUT THE ARMY.

(SLIDE 10-TRADOC BULLETINS)

THE SERIES OF TRADOC BULLETINS ARE INTENDED TO PROVIDE TO COMMANDERS, AND OTHERS CONCERNED WITH MILITARY TRAINING, TIMELY TECHNICAL INFORMATION ON WEAPONS, TACTICS, AND TRAINING TECHNIQUES. THEY ARE NOT INTENDED TO SUPPLANT DOCTRINAL PUBLICATIONS, BUT TO SUPPLEMENT MATERIAL ON "HOW TO FIGHT" WITH DATA DERIVED FROM TESTS, RECENT INTELLIGENCE, OR OTHER SOURCES WHICH PROBE "WHY." AS SUCH, MUCH LIKE THE "HOW TO FIGHT" FIELD MANUALS, THEY ARE A FOUNDATION FOR TRAINING DEVELOPMENTS. THIS SERIES IS CONTINUING AS A PROGRAM OF BATTLE REPORTS, WITH AN INCREASING EMPHASIS ON THREAT, PARTICULARLY TO THE REAR AREAS, AND THREAT ANALYSIS, COMBAT VEHICLE ENGAGEMENTS, FOR EXAMPLE.

THATS WHAT'S CURRENTLY AVAILABLE, AT HAND, TO SUPPORT YOUR EFFORTS. THREAT MANAGERS ARE ALSO PROVIDED, IN MESSAGE, A WEEKLY INTELLIGENCE BRIEFING, CLASSIFIED SECRET, BUT WHICH ALSO USUALLY CONTAINS UNCLASSIFIED ARTICLES ON THE SOVIET THREAT APPLICABLE TO TRAINING DEVELOPMENTS. EMPHASIS IS PLACED ON THE THREATS TO THE REAR AREA, AND SOVIET UNCONVENTIONAL AND SPECIAL OPERATIONS.

(SLIDE 11-SOVIET ARMY OPERATIONS MANUAL)

LASTLY, DCSDOC IS CURRENTLY COORDINATING THE PUBLICATION OF A SERIES OF THREAT MANUALS IN THE "HOW TO FIGHT" AND "HOW TO SUPPORT" FIELD MANUAL PROGRAM. THIS WILL BE A DEFENSE INTELLIGENCE AGENCY UPDATE OF FM 30-102 AND THE INTELLIGENCE AND SECURITY COMMAND UNCLASSIFIED SOVIET ARMY OPERATIONS MANUAL. AS SUCH, IT WILL BE AN UNCLASSIFIED INTELLIGENCE DOCUMENT USED TO SUPPORT THREAT INSTRUCTION, AND TRAINING AND TRAINING DEVELOPMENTS.

IT WILL BE A DEFINITIVE UNCLASSIFIED ASSESSMENT OF THE SOVIET THREAT TO US ARMY OPERATIONS. IT SHOULD OBVIATE ANY REQUIREMENT FOR ANY OTHER GENERAL TREATMENT OF THE THREAT. IT WILL BE COMPREHENSIVE AND SERVE AS THE DATA BASE FOR DISCUSSION OF SPECIFIC THREAT IN "HOW TO FIGHT" AND "HOW TO SUPPORT" OR OTHER APPLICABLE FIELD MANUALS; IT SHOULD ALSO SUFFICE AS THE OPPOSING FORCE (OPFOR) PROGRAM DATA BASE FOR THE INTEGRATION OF THREAT INTO ARMY TRAINING AND EVALUATION PROGRAMS (ARTEP), SOLDIER'S MANUALS (SM), OTHER PERTINENT TRAINING PUBLICATIONS, AIDS OR DEVICES, AND INDIVIDUAL AND COLLECTIVE TRAINING.

IN ORDER TO SATISFY THESE REQUIREMENTS, THE UPDATE WILL NECESSARILY BE PREPARED AS A MULTIVOLUME REFERENCE; HOWEVER, OPERATIONS OF THE SOVIET ARMY WILL NOT BE ARTIFICIALLY SEGMENTED. SOVIET DEFENSIVE OPERATIONS, FOR EXAMPLE, CANNOT BE EFFECTIVELY CONSIDERED AS SEPARATE FROM OFFENSIVE OPERATIONS. DISCUSSION OF SOVIET ARMY OPERATIONS, THEREFORE, MAY USEFULLY BE DIVIDED INTO COMBAT OPERATIONS, SPECIAL OPERATIONS, AND REAR AREA OPERATIONS; THIS ARRANGEMENT ALLOWS AN INTEGRATED VIEW OF SOVIET TACTICS AS THEY APPLY TO BATTLEFIELD DIMENSIONS EXTENDING BEHIND AND BEYOND THE FORWARD EDGE OF THE BATTLE AREA (FEBA). SPECIFIC LONG-RANGE WEAPONS SYSTEMS, FOR EXAMPLE, MAY BE BASED IN THE SOVIET REAR AREA; DISCUSSION OF THEIR SITE CONFIGURATION, LOGISTIC SUPPORT, AMMUNITION, OR DEFENSIVE VULNERABILITIES ARE INCONSEQUENTIAL TO ARMORED,

INFANTRY, OR MECHANIZED FORCES EXPECTING TO BE ENGAGED ON THE FEBA. THEY NEED TO KNOW THE TACTICAL EFFECTS OF THE WEAPONS. ON THE OTHER HAND, THIS TYPE INFORMATION IS VITAL TO SPECIAL FORCES, RANGER, OR LONG-RANGE RECONNAISSANCE PERSONNEL. THIS ORGANIZATIONAL ASSEMBLY OF THE STUDY ALSO BEST CORRESPONDS TO THE THREAT KNOWLEDGE NEEDS OF COMBAT ARMS, COMBAT SUPPORT, COMBAT SERVICE SUPPORT, AND UNCONVENTIONAL WARFARE ELEMENTS OF THE US ARMY.

(SLIDE 12-COMBAT OPERATIONS)

THE PRIMARY VOLUME ON SOVIET ARMY COMBAT OPERATIONS WILL DISCUSS SOVIET TACTICS, ORGANIZATIONS, AND WEAPONS AS THEY AFFECT ACTIONS IN THE MAIN BATTLE AREA. SUBJECTS PECULIAR TO THIS VOLUME INCLUDE THOROUGH DISCUSSIONS OF THE MEETING ENGAGEMENT, OFFENSIVE COMBAT, DEFENSE, AND THE WITHDRAWAL. EMPHASIS NEEDS TO BE PLACED ON NIGHT COMBAT, AND OPERATIONS WILL BE DISCUSSED IN NUCLEAR AND NON-NUCLEAR ENVIRONMENTS. SPECIAL HEED WILL BE ALLOTED TO SOVIET AIR SUPPORT OF GROUND FORCES DEPLOYED ALONG THE FEBA.

(SLIDE 13-SPECIAL OPERATIONS)

A VOLUME ON SOVIET SPECIAL OPERATIONS IS CRUCIAL TO EFFECTIVELY CONVEY THE THREAT TO COMBAT SUPPORT AND COMBAT SERVICE SUPPORT PERSONNEL AND UNITS; IT WILL ADDRESS THE SOVIET THREAT TO THE US REAR AREA. SUBJECTS PECULIAR TO THIS VOLUME INCLUDE AIRBORNE ASSAULT OPERATIONS, HELIBORNE ASSAULTS, AMPHIBIOUS OPERATIONS, AND UNCONVENTIONAL WARFARE OPERATIONS TO INCLUDE SPECIAL OPERATION FORCES, SABOTAGE, AND AGENTS.

(SLIDE 14-REAR AREA OPERATIONS)

A COMPREHENSIVE STUDY OF SOVIET REAR AREA OPERATIONS IS ESSENTIAL TO SUPPORT US UNCONVENTIONAL WARFARE TRAINING PREPAREDNESS. DISCUSSION WILL

ADDRESS NOT ONLY SOVIET REAR AREA SECURITY BUT ALSO A THOROUGH ASSESSMENT OF SOVIET LOGISTICAL AND OTHER SUPPORT OPERATIONS.

THIS MULTIVOLUME APPROACH WILL PROVIDE USEFUL, COMPREHENSIVE TREATMENTS OF THE THREAT, RATHER THAN DISASSEMBLED AND OFTEN ESOTERIC DISCUSSIONS OF COMBAT UNDER SPECIAL CONDITIONS, OR REVIEWS OF SOVIET TACTICAL AVIATION AS A DISCONNECTED AFTERTHOUGHT. AND IT SHOULD PROVE EXCELLENT TO SUPPORT TRAINING ANALYSIS.

(SLIDE 15-TARGETS)

THERE ARE DISCERNIBLE PROBLEMS IF THREAT IS NOT ADDRESSED OR PROPERLY CONSIDERED IN TRAINING ANALYSIS. THE MOST OBVIOUS LOSS IS A LACK OF REALISM. INACCURACY IS ANOTHER NECESSARY FALLOUT IF THREAT DATA IS IGNORED OR MISAPPLIED. SOVIET TANKS ARE FREQUENTLY DEPICTED IN TRAINING LITERATURE WITH A FRONTAL BULLSEYE OR AIMING POINT. TRADOC BULLETIN NUMBER 12, BATTLE REPORT: COMBAT VEHICLE ENGAGEMENTS, MODIFIES ENGAGEMENT PRINCIPLES, HOWEVER, BASED ON SOVIET TECHNOLOGICAL ADVANCES. IT EMPHASIZES THAT SOVIET TANKS SHOULD BE ENGAGED FROM THE FLANKS AND REAR. THIS NECESSARY TACTICAL INNOVATION IS ESSENTIAL DUE TO SOVIET IMPROVED ARMOR VEHICLE PROTECTION AGAINST BOTH KINETIC AND CHEMICAL ENERGY PROJECTILES; SUCH ARMOR IS NORMALLY FOUND ON THE FRONT OF MODERN SOVIET TANKS. IF VULNERABLE AREAS ARE PICTURED IN TRAINING LITERATURE THEY SHOULD BE BASED ON THE LETHALITY OF CURRENT US ANTITANK SYSTEMS; VULERNABILITY SHOULD BE CATEGORIZED BASED ON A SOVIET TANK'S SUSCEPTIBILITY TO DAMAGE OR DESTRUCTION WHEN ENGAGED BY THE M203 40MM GRENADE LAUNCHER, M72A2 LAW, M67 90MM RECOILLESS RIFLE, M47 DRAGON, AND THE TOW. IT IS FRUITLESS TO DEPICT FRONTAL VULNERABLE AREAS IF ENGAGEMENT IS FUTILE, OR TO EXPEND CRITICAL AMMUNITION ON AN OTHERWISE SOUND FLANK OR REAR SHOT IF THE ANTITANK SYSTEM IS INCAPABLE OF PROVIDING EFFECTIVE FIRE.

BUT THERE IS A NEED TO ESTABLISH MINIMUM MISSION ESSENTIAL THREAT KNOWLEDGE REQUIREMENTS FOR ALL COMBAT, COMBAT SUPPORT, AND COMBAT SERVICE SUPPORT FORCES. THESE REQUIREMENTS SHOULD DELINEATE THE INDIVIDUAL SOLDIER'S NEEDS FOR VEHICLE, AIRCRAFT, OR OTHER EQUIPMENT RECOGNITION KNOWLEDGE, AND REQUIRE UNDERSTANDING OF APPLICABLE THREAT TACTICS, VULNERABILITIES, AND CAPABILITIES.

SOLDIER'S MANUALS APPEAR TO BE THE BASIC PUBLICATION TO IMPART THESE REQUIREMENTS TO THE SOLDIER. THEY SHOULD ALSO BE INCORPORATED INTO THE PROGRAMS OF INSTRUCTION OF MOS-PRODUCING SERVICE SCHOOLS. THE ARMY TRAINING AND EVALUATION PROGRAM, AS WE'VE INDICATED, SHOULD EXPLOIT THIS KNOWLEDGE IN THE COLLECTIVE TRAINING ENVIRONMENT.

JOB AND TASK ANALYSIS WILL INDICATE THAT SOME MOS HAVE SIGNIFICANT AND CRITICAL NEEDS FOR THIS KNOWLEDGE, WHILE OTHER MOS MAY REQUIRE LITTLE OR EVEN NONE. THIS ANALYSIS SHOULD ALSO DETERMINE THAT MANY MOS WILL REQUIRE NOT ONLY SKILLS IN THREAT EQUIPMENT RECOGNITION, BUT ALSO COMMENSURATE CAPABILITIES IN IDENTIFYING NATO FOREIGN MATERIELS.

THERE IS A FULL COMPLEMENT OF RECOGNITION TRAINING AIDS PRESENTLY AVAILABLE, TO INCLUDE TRAINING CIRCULARS, DEVICES, FILMS, STUDY CARDS, SLIDE KITS, AND TRAINING EXTENSION COURSES TO SUPPORT THIS TRAINING EFFORT. MANY SCHOOLS HAVE IDENTIFIED THE NEED TO HAVE SOLDIERS IDENTIFY THREAT VEHICLES AND WEAPONS, AND TO RECOGNIZE THREAT VULNERABILITIES IN SOLDIER'S MANUALS. IN ADDITION, TRADOC REG 310-2, DEVELOPMENT, PREPARATION, AND MANAGEMENT OF ARTEP DOES REQUIRE A THOROUGH REVIEW OF THE THREAT IN MISSION AND TASK ANALYSIS IN ORDER TO DEVELOP APPROPRIATE THREAT COUNTERTASKS.

(SLIDE 16-ATLP)

WORSE YET IS DEPICTION OF THREAT INFORMATION AND DATA IN ARMYWIDE TRAINING LITERATURE SIMPLY FOR ITS OWN SAKE. I'M SURE YOU'VE SEEN THREAT CHAPTERS OR

PORTIONS OF "HOW TO FIGHT" MANUALS THAT PICTURED A SOVIET THREAT THAT HAD NO RELATION TO THE US DOCTRINE UNDER DISCUSSION. DCSDOC IS TRYING TO ASSURE THAT "HOW TO SUPPORT" MANUALS AND THE REVISIONS OF "HOW TO FIGHT" MANUALS CONTAIN MORE EXTENSIVE AND APPROPRIATE THREAT DISCUSSIONS. THE DIA REVISION OF FM 30-102 AND THE SOVIET ARMY OPERATIONS MANUAL IS THE INITIAL STEP IN THIS PROCESS. APPROPRIATE BATTLE REPORTS AND BULLETINS SHOULD ALSO ASSIST.

ALL THESE EFFORTS ARE AN ATTEMPT TO MAXIMIZE USE OF THREAT DATA IN TRAINING DEVELOPMENTS. THIS IS CRITICAL AS THE DEMAND FOR ACCURACY AND REALISM IN TRAINING, AND THE ABUNDANCE OF MATERIAL ON SOVIET TACTICS, ORGANIZATIONS, AND EQUIPMENT OFTEN OUTSTRIP THE CAPABILITIES OF A CENTER OR SCHOOL TO ASSIMILATE OR COPE WITH THE PROBLEM. THIS IS WHERE THE THREAT MANAGER MUST FIT INTO YOUR PROCESS AND ASSIST. ARTICULATE YOUR SPECIFIC REQUIREMENTS FOR THREAT DATA THROUGH YOUR THREAT MANAGER. OTHER INFORMATION IS NORMALLY AVAILABLE OR CAN BE SOLICITED THROUGH THE DEFENSE INTELLIGENCE AGENCY AS AN INTELLIGENCE REQUIREMENT OR TASK.

AS YOU CAN SEE, I'M OFFERING LOTS OF ADVICE BUT LITTLE ASSISTANCE. YOU HAVE TO ANALYZE THE THREAT YOURSELVES FOR YOUR OWN TRAINING NEEDS. WE CAN HELP, BUT ONLY YOUR TRAINED TO DO IT. AS YOU NEED AID, CONTACT YOUR THREAT MANAGER OR CONTACT US AT DCSDOC. WE'LL DO WHATEVER WE CAN. WE'RE TRYING. ANY QUESTIONS?

US ARMY CHEMICAL SCHOOL

TRAINING DEVELOPMENT

DIRECTORATE

MAJOR FRANK J. COX

THREAT INTEGRATION

TO

TRAINING LITERATURE

PURPOSE

TO PROVIDE INFORMATION TO TASK ANALYSTS ON THE USE OF THREAT INFORMATION IN DEVELOPING TRAINING LITERATURE

TOPICS

- ANALYSIS
  - * COLLECTIVE TRAINING
  - * INDIVIDUAL TRAINING
- DEVELOPMENT OF LITERATURE
  - * EPMS
  - * ARTEPS
  - * SQTS
- DOCTRINAL
  - * HOW TO FIGHT
  - * OTHER FMS, TC'S, TMS
- TRAINING STRATEGY
  - * COURSE DEVELOPMENT
  - * USE OF THREAT INFORMATION

OVERVIEW

MOTORIZED RIFLE DIVISION HAS:

27.5KM	72	HOWITZERS
20.5KM	18	MULTIPLE ROCKET LAUNCHERS
60KM	4	FROG-7 LAUNCHERS

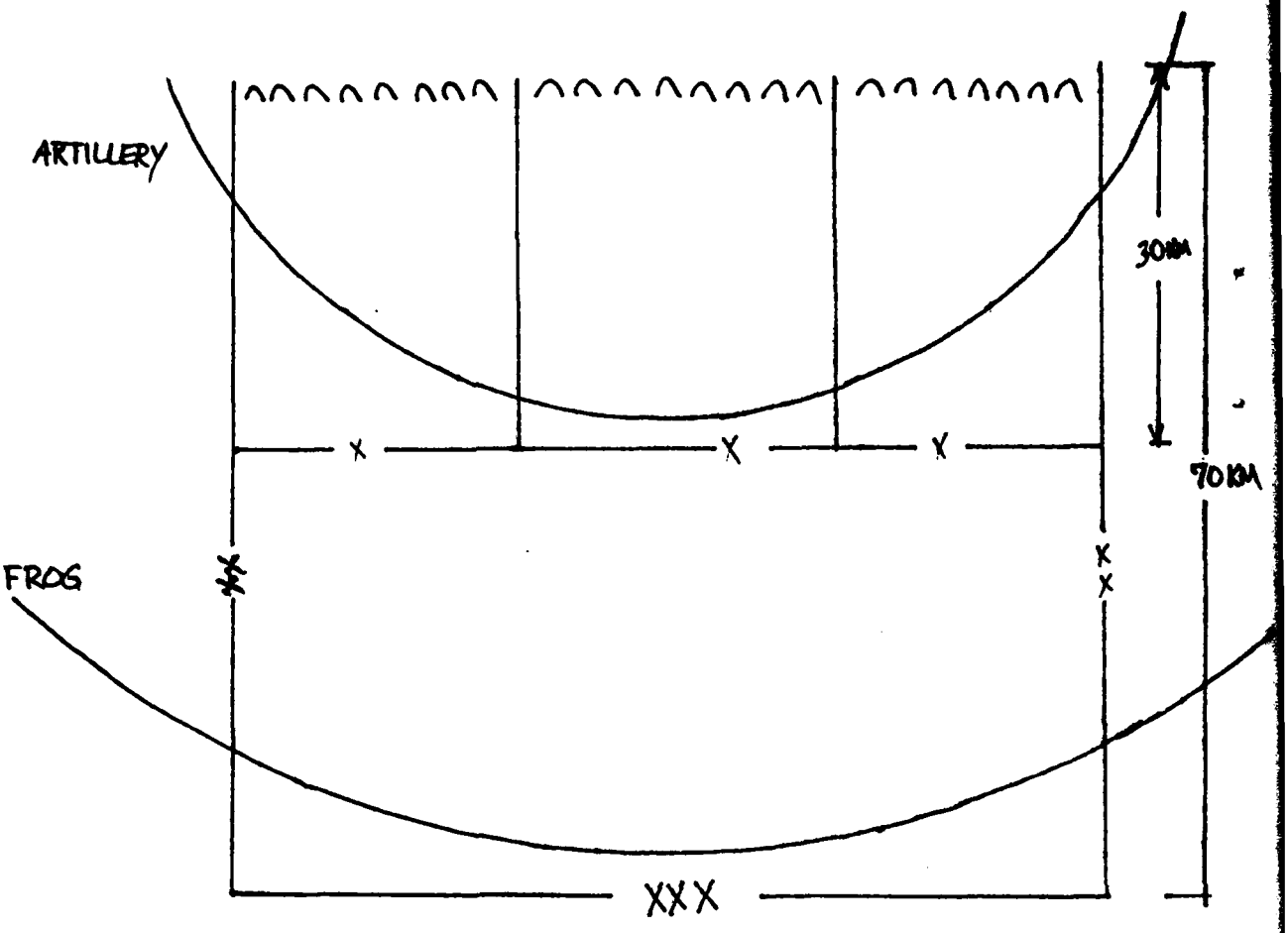
TANK DIVISION HAS:

60	HOWITZERS
18	MRL
4	FROG-7

COMBINED ARMS ARMY NORMALLY HAS:

	3 X MR DIV:	216 HOWITZERS, 54 MRL, 12 FROG
	1 X TANK DIV:	60 HOWITZERS, 18 MRL, 4 FROG
	1 X ARTILLERY REGIMENT	54 HOWITZERS
280KM	1 X SCUD MISSILE BRIGADE	

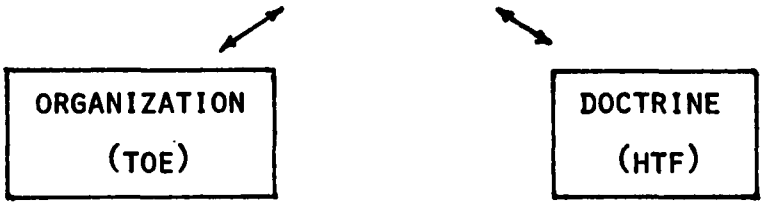
\+ GENERAL SUPPORT FROM FRONT ARTILLERY UNITS



1/3 OF SOVIET WARHEADS CONTAIN A CHEMICAL FILL



THREAT



CHEMOPS STUDY

CHEMICAL EXCURSION TO EUROPE III

CHEMICAL ARCHITECTURAL STUDY

ANALYZE TO COUNTER THREAT

- ARTEP

  * TASK ASSIGNMENT

    * TROOP LEADER ORIENTED

      * PLAN, SUPERVISE, MONITOR

TOP - DOWN

SOLDIERS MANUAL

* TASK ASSIGNMENT

* EQUIPMENT ORIENTED

* DO, PERFORM, ACCOMPLISH

BOTTOM - UP

COLLECTIVE MESHES WITH INDIVIDUAL

EXAMPLE: SSG TASK 031-503-3006

DECONTAMINATE UNIT EQUIPMENT

UNIT MEANS COLLECTIVE PARTICIPATION

* PLANS, SUPERVISES

SQT = TASK MEANS INDIVIDUAL ACCOMPLISHMENT

NBC COMMON MODULE FOR ARTEPs

* 17 TASKS

  10 - CORE - 7 MTOE

* DEVELOPED BY CHEMICAL SCHOOL

  * ATB APPROVED

* ALL THREAT ORIENTED

* MODIFIER FOR ALL TASKS

  * DURING PERIODS OF MOPP

* LINKED WITH INDIVIDUAL COMMON TASKS

SQT

- CONTAIN COMMON NBC TASKS
- EQUIPMENT ORIENTED FOR INDIVIDUAL SURVIVAL AT SKILL LEVELS 1 AND 2
- MESH WITH COLLECTIVE AT SKILL LEVELS 3, 4, AND 5
- MTOE RELATED
- ROLE MODEL/ROLE PLAYING

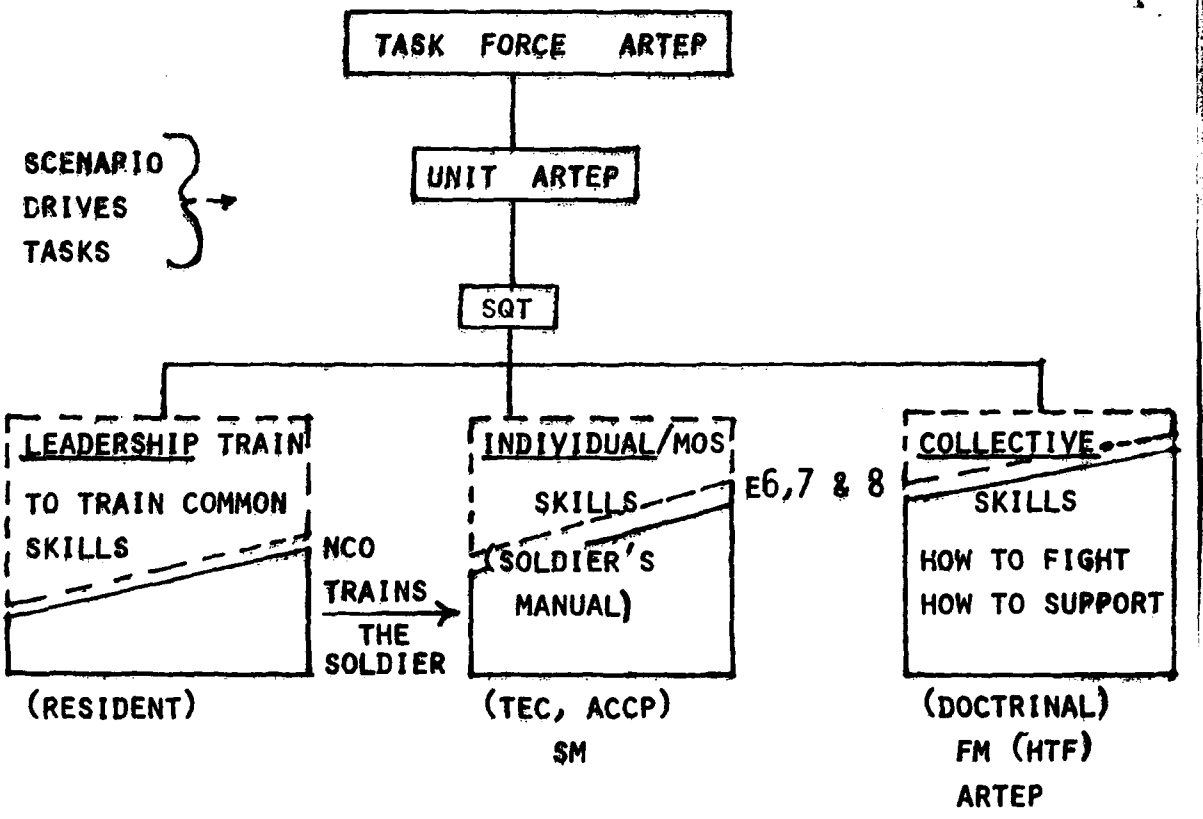
  THREAT VS FRIENDLY

DOCTRINAL LITERATURE

- THREAT NOT A SEPARATE TOPIC
  - * RELATIONSHIP TO SUBJECT MATTER
    - * How - to - FIGHT
      - * REVIEWED BY DCSDOC
      - * TREND TO THREAT MANAGEMENT
    - * CHEMICAL DOCTRINE MANUALS
      - * EMPLOYMENT OF CHEMICAL AGENTS
      - * DECONTAMINATION
      - * COLLECTIVE PROTECTION

DESIGNED AROUND THREAT

TRAINING STRATEGY



UNIT TRAINING = ————

INSTITUTIONAL TRAINING = - - - - -

COURSE DEVELOPMENT

* STAFFING OF NBC UNITS

AIT/NCOES

* RECON & DECON SPECIALISTS

* UNIT CHEMICAL NCO

* STAFF CHEMICAL OFFICER POSITIONS

* BN CHEMICAL OFFICER

BASIC OFFICER

* NBC DEFENSE CO. PLATTON LEADER

* COMPANY COMMANDER NBC UNIT

ADV OFFICER

* BRIGADE/DIVISION STAFF CHEMICAL OFFICER

USE OF THREAT INFORMATION

(POI OF BASIC OFFICER)

* THREAT BRIEFINGS

* INTEGRATION OF THREAT TACTICS

TASKS DESIGNED TO COUNTERTHREAT

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
MANEUVER BATTALION CHEMICAL OFFICER	B		
NBC ORGANIZATION	B01	4	3C; 1PE2
CROSS ATTACHING TO MEET THE THREAT FORCE	B02	2	1C; 1PE2
BATTALION COMMUNICATIONS	B03	2	2PE1
HASTY SMOKE EMPLOYMENT	B04	2	1C; 1PE3
IMPACT OF SMOKE ON COMBINED ARMS OPERATION	B05	2	1C; 1PE3
LIMITED VISIBILITY	B06	1	1C
SUBANNEX TOTAL			
BATTALION OPERATIONS IN A NUCLEAR ENVIRONMENT	C		
NUCLEAR THREAT	C01	3	2C; 1F
THREAT POLICY, EMPLOYMENT CAPABILITIES, AND DELIVERY SYSTEMS	C02	3	2C; .5F; .5TV
US/NATO POLICY, EMPLOYMENT CAPABILITIES, AND DELIVERY SYSTEMS	C03	2	1.5C; .5F
SALT TALKS I AND II	C04	1	1C
INDIVIDUAL NUCLEAR DEFENSE	C05	1	.7C; .3F
NUCLEAR BURST INFORMATION	C06	3	1C; 2PE1
NBC WARNING AND REPORTING SYSTEM	C07	1	1C
FALLOUT PREDICTION	C08	9	9PE1
RADIATION FUNDAMENTALS	C09	2	1.5C; .5PE2
BASICS OF RADIATION DETECTION	C10	1	1C
RADIAC INSTRUMENTS	C11	4	4PE1
RADIOLOGICAL MONITORING AND SURVEY	C12	3	1C; 2PE1
FALLOUT CONTAMINATION PLOTTING	C13	1	1PE2
RADIOLOGICAL SURVEY EXERCISE	C14	8	8PE1
RADIATION SHIELDING	C15	2	.5C; 1.5PE1
EXPOSURE GUIDANCE AND CONTROL	C16	2	2C
OPERATIONAL ASPECTS OF FALLOUT	C17	8	8PE1
OPERATIONAS ASPECTS OF INDUCED RADIATION	C18	3	3PE2
NUCLEAR VULNERABILITY ANALYSIS	C19	2	2PE2
NUCLEAR SURETY	C20	1	1C

OTHER CONSIDERATIONS

- CONSISTENT THREAT INFORMATION BETWEEN DOCTRINAL AND EPMS
  - * ANALYST VS TNG LIT
  - * CONCEPT & STUDIES VS TNG LIT
- SUBJECT MATTER EXPERT SHOULD BE
  - * THREAT COMPETENT
  - * THREAT KNOWLEDGEABLE

COURSE - Chemical Officer Basic Course

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
COMBAT WEAPONS AND TROOP LEADING SKILLS	A		
ACADEMIC ORIENTATION AND INTRODUCTION	A01	3	1.5C; .5D
ADVANCED PHYSICAL FITNESS EVALUATION	A02	3.5	.5D; 3E
M16A1 RIFLE MECHANICAL TRAINING	A03	2	1.3PE1; .7E
M16A1 RIFLE BATTLESIGHT ZERO	A04	4	2.5PE1; 1.5E
M16A1 RECORD FIRE	A05	3	3PE1
NIGHT OBSERVATION DEVICES	A06	4	1PE1; 3E
M16A1 RIFLE NIGHT FIRE	A07	3	2.5PE1; .5E
SECURITY AND INTELLIGENCE	A08	4	2.4PE2; 1.6E
M203 GRENADE LAUNCHER	A09	4	2.9PE1; 1.1E
MEDICAL LIFESAVING PROCEDURES	A10	4	1.5PE2; 2.5E
LAND NAVIGATION	A11	12	1.5PE1; 6.2PE2; 4.3E
DAY AND NIGHT NAVIGATION COURSE	A12	8	2PE1; 1.8PE2; 4.2E
LANDMINE WARFARE	A13	8	5.7PE1; 2.3E
HAND GRENADES	A14	5	2PE1; 2.8E
M60 MACHINE GUN	A15	8	5.5PE; 2.5E
LIGHT ANTITANK WEAPON (M72A2)	A16	4	3PE1; 1E
COMMUNICATIONS	A17	8	2.9PE1; 5.1E
NBC DEFENSIVE TECHNIQUES	A18	4	2.7PE1; .3PE2; 1E
CALIBER .50 MACHINE GUN	A19	5	.5C; .5D; 4PE1
.45 CALIBER PISTOL	A20	2	2PE1
DEMOLITION TECHNIQUES	A21	5	1C; .9D; 3PE1
SOVIET ARMY	A22	3	1C; 2PE1
SQUAD TACTICS FTX	A23	40	4PE1; 12PE2; 24E
INDIVIDUAL COMBAT TECHNIQUES FTX	A24	33	23.2PE2; 9.8E
PATROLLING FTX	A25	60	60PE1
ARTILLERY	A26	4	1C; 2PE1; 1E
TRAINING MANAGEMENT	A27	12	3.6C; 8.4PE3
LEADERSHIP	A28	12	12PE3
TACTICAL ROAD MARCH	A29	4	4PE2
MAINTENANCE MANAGEMENT	A30	12	3C; 9PE1
EMERGENCY AND PARTIAL DECONTAMINATION PROCEDURES	A31	4	3.5PE1; .5C
CODE OF CONDUCT	A32	2	1C; 1F

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
MANEUVER BATTALION CHEMICAL OFFICER	B		
NBC ORGANIZATION	B01	4	3C; 1PE2
CROSS ATTACHING TO MEET THE THREAT FORCE	B02	2	1C; 1PE2
BATTALION COMMUNICATIONS	B03	2	2PE1
HASTY SMOKE EMPLOYMENT	B04	2	1C; 1PE3
IMPACT OF SMOKE ON COMBINED ARMS OPERATION	B05	2	1C; 1PE3
LIMITED VISIBILITY	B06	1	1C
SUBANNEX TOTAL			
BATTALION OPERATIONS IN A NUCLEAR ENVIRONMENT	C		
NUCLEAR THREAT	C01	3	2C; 1F
THREAT POLICY, EMPLOYMENT CAPABILITIES, AND DELIVERY SYSTEMS	C02	3	2C; .5F; .5TV
US/NATO POLICY, EMPLOYMENT CAPABILITIES, AND DELIVERY SYSTEMS	C03	2	1.5C; .5F
SALT TALKS I AND II	C04	1	1C
INDIVIDUAL NUCLEAR DEFENSE	C05	1	.7C; .3F
NUCLEAR BURST INFORMATION	C06	3	1C; 2PE1
NBC WARNING AND REPORTING SYSTEM	C07	1	1C
FALLOUT PREDICTION	C08	9	9PE1
RADIATION FUNDAMENTALS	C09	2	1.5C; .5PE2
BASICS OF RADIATION DETECTION	C10	1	1C
RADIAC INSTRUMENTS	C11	4	4PE1
RADIOLOGICAL MONITORING AND SURVEY	C12	3	1C; 2PE1
FALLOUT CONTAMINATION PLOTTING	C13	1	1PE2
RADIOLOGICAL SURVEY EXERCISE	C14	8	8PE1
RADIATION SHIELDING	C15	2	.5C; 1.5PE1
EXPOSURE GUIDANCE AND CONTROL	C16	2	2C
OPERATIONAL ASPECTS OF FALLOUT	C17	8	8PE1
OPERATIONAS ASPECTS OF INDUCED RADIATION	C18	3	3PE2
NUCLEAR VULNERABILITY ANALYSIS	C19	2	2PE2
NUCLEAR SURETY	C20	1	1C

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
NUCLEAR ACCIDENT/INCIDENT CONTROL	C21	1	.5C; .5F
ALPHA INSTRUMENTS	C22	2	2PE1
CONTROL AND REPORTING OF RADIOACTIVE MATERIAL	C23	1	1C
SEMINAR	C24	1	1S
BATTALION OPERATIONS IN A NUCLEAR ENVIRONMENT EXAMINATION	C25	4	2E1; 2E2
CRITIQUE	C26	1	1S
SUBANNEX TOTAL			
BATTALION OPERATION IN A CHEMICAL/ BIOLOGICAL ENVIRONMENT	D		
HISTORY OF CHEMICAL WARFARE	D01	1	1C
THREAT POLICY AND DELIVERY SYSTEMS	D02	2	1.5C; .5F
US/NATO POLICY AND DELIVERY SYSTEMS	D03	1	1C
NEW DEVELOPMENT/TRENDS IN RESEARCH	D04	4	4C
M17 SERIES PROTECTIVE MASK	D05	3	1D; .4TV; 1.6PE1
PROTECTIVE EQUIPMENT AND CLOTHING	D06	1	1PE1
MOPP	D07	1	1C
CHEMICAL CASUALTY/INCAPACITATING AGENTS	D08	4	3C; 1F
CHEMICAL AGENT DETECTION AND IDENTIFICATION	D09	4	2D; 2PE1
IDENTIFICATION OF CHEMICAL MUNITIONS	D10	1	.6C; .4PE1
LIVE EXERCISE IN CHEMICAL DETECTION AND IDENTIFICATION	D11	2	.5D; 1.5PE1
M8 CHEMICAL AGENT AUTOMATIC ALARM	D12	8	1C; .3TV; 6.7PE1
IDENTIFICATION AND CONTROL OF CONTAMINATED AREAS	D13	2	1C; 1PE2
COLLECTIVE PROTECTION	D14	2	1C; 1PE2
INDIVIDUAL AND EQUIPMENT DECONTAMINATION PROCEDURES	D15	2	1C, 1PE1
UNIT NBC DEFENSE TEAMS	D16	1	.5C, .5PE2
UNIT PREPARATION FOR CHEMICAL ATTACK	D17	2	2C
CHEMICAL SURETY	D18	1	1C
CHEMICAL ACCIDENT/INCIDENT CONTROL	D19	1	1C

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
DISEASE AND BIOLOGICAL WARFARE	D20	1	1C
THREAT POLICY AND DELIVERY SYSTEMS	D21	1	1C
US/NATO POLICY AND NEW DEFENSIVE DEVELOPMENTS	D22	1	1C
INTRODUCTION TO BIOLOGICAL DEFENSE	D23	1	.6C; .4F
TECHNICAL ASPECTS OF MICROBIOLOGY	D24	2	2C
INFECTION AND IMMUNITY	D25	1	1C
POTENTIAL ANTIPERSONNEL/ ANTIPLANT AGENTS	D26	2	2C
POTENTIAL METHODS OF DISSEMINATION	D27	1	1C
BIOLOGICAL DETECTION AND DEFENSE	D28	2	2C
BIOLOGICAL SAMPLING	D29	1	1PE1
SEMINAR	D30	1	1S
EXAMINATION	D31	3	2E3; 1E1
CRITIQUE	D32	1	1S
SEMINAR ON THE COMBINED ARMS TEAM ON THE CONTAMINATED BATTLEFIELD	D33	3	3S
SUBANNEX TOTAL			
BATTALION TRAINING MANAGEMENT	E		
THE ARMY TRAINING SYSTEM	E01	1	1C
TRAINING AMMUNITION MANAGEMENT SYSTEMS	E02	1	1C
NBC TRAINING INTEGRATION	E03	1	1C
WRITING OBJECTIVES	E04	1	1C
DEVELOPING OUTLINES TO TRAIN SM TASKS	E05	2	.5C; 1.5PE2
PREPARING AND CONDUCTING INDIVIDUAL TRAINING	E06	3	.5C; 2.5PE2
EVALUATION OF INDIVIDUAL COLLECTIVE TRAINING	E07	3	.5C; 2.5PE2
CAREER PROGRESSION AND PROPER UTILIZATION OF THE 54E, EPMS	E08	1	1C
DUTIES AND RESPONSIBILITIES OF THE 54E AT COMPANY LEVEL	E09	1	1C
UNIT NBC INSPECTION TECHNIQUES	E10	4	1C, 3PE1

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
UNIT NBC DEFENSE TRAINING	E11	3	1C; 2PE2
PROFICIENCY TESTING METHODS, SOP PREPARATION NBC DEFENSE ANNEX	E12	4	1C; 3PE2
SUBANNEX TOTAL			
NBC DEFENSE PLATOON LEADER	F		
THE NBC DEFENSE PLATOON	F01	1	.5C; .5TV
ORGANIZING THE PLATOON FOR COMBAT	F02	2	1C; 1PE3
OFFENSIVE OPERATIONS	F03	1	1C
DEFENSIVE OPERATIONS	F04	1	1C
NAIC/CAIC OPERATIONS	F05	3	1C; 2PE1
TAKING CHARGE OF THE PLATOON	F06	1	1C
CLIMATE FOR MOTIVATION	F07	1	1C
DISRUPTIVE INFLUENCES	F08	2	.5C; 1.5PE3
USING YOUR NCO'S	F09	3	1C; 2PE2
KNOWING YOUR SOLDIERS	F10	3	1C; 2PE2
CLASSES OF SUPPLY	F11	1	.5C, .5PE2
PROPERTY RECORDS	F12	2	.5C; 1.5PE3
METHODS OF RELIEF FROM RESPONSIBILITY	F13	4	2C; 2PE2
ORGANIZATIONAL REPAIR PARTS PLL	F14	2	1C; 1PE3
CONVENTIONAL AMMUNITION AND MISSILE SYSTEM OVERVIEW	F15	2	2C
SOURCES OF SUPPLY	F16	1	1C
POLICY AND DOCTRINE	F17	1	1C
PREVENTIVE MAINTENANCE	F18	2	2C
MATERIAL READINESS AND UNIT READINESS	F19	2	.5C; 1.5PE3
ARMY SAFETY PROGRAM	F20	1	.4C; .6TV
UNIT MAINTENANCE OPERATIONS	F21	3	2C; 1PE3
TAMMS	F22	2	1C; 1PE3
ANALYSIS AND EVALUATION OF TRAINING STATUS	F23	2	.5C; 1.5PE2
SELECTING PLATOON/SQUAD MISSIONS AND TASKS FOR TRAINING	F24	2	.5C; 1.5PE2
SELECTING INDIVIDUAL/LEADER TASKS FOR TRAINING	F25	1.5	.5C; 1PE2
PRIORITIZING MISSION/TASKS	F26	.5	.5PE2
PLANNING MULTI-ECHELON TRAINING	F27	2	1C; 1PE2
CONVENTIONAL RECONNAISSANCE	F28	1	1C
FUNDAMENTALS OF NBC RECONNAISSANCE	F29	1	1C
MOVEMENT TECHNIQUES	F30	1	1C

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
SUPERVISE CHEMICAL/BIOLOGICAL RECONNAISSANCE OPERATIONS	F31	4	2PE1; 2PE2
SUPERVISE RADIOLOGICAL SURVEY OPERATIONS	F32	4	2PE1; 2PE2
DECON SITE RECON	F33	1	1C
REAR AREA PROTECTION	F34	2	2C
PRACTICAL EXERCISE - RECONNAISSANCE	F35	8	8PE1
THE CONTAMINATED BATTLEFIELD	F36	1	1C
DECONTAMINATION THEORY	F37	1	1C
EMERGENCY AND PARTIAL DECONTAMINATION PROCEDURES	F38	2	1C; 1PE1
PARTIAL DECONTAMINATION OF OTHER UNITS	F39	3	1C; 1PE2; 1PE1
COMPLETE PERSONNEL/EQUIPMENT DECONTAMINATION	F40	2	2C
M12 PDDA OPERATION AND CAPABILITIES	F41	8	8PE1
PDS - PLANNING OPERATIONS	F42	4	2PE3; 2PE1
EDS - PLANNING OPERATIONS	F43	4	2PE3; 2PE1
SUPPORT OF THE NBC DEFENSE COMPANY	F44	2	2C
TERRAIN DECONTAMINATION	F45	4	1C; 1PE3; 2PE1
COMBINED PERSONNEL/EQUIPMENT DECONTAMINATION	F46	8	8PE1
SEMINAR	F47	1	1S
EXAMINATION	F48	3	1E; 1E2; 1E3
CRITIQUE	F49	1	1S
SUBANNEX TOTAL			
THE SMOKE GENERATOR PLATOON	G		
THE SMOKE GENERATOR PLATOON	G01	1	.5C; .5TV
ORGANIZING THE PLATOON FOR COMBAT	G02	2	1C; 1PE3
TAKING CHARGE OF THE PLATOON	G03	1	1C
HISTORY OF SMOKE EMPLOYMENT	G04	1	.5C, .5F
SMOKE OPERATIONS ON MODERN BATTLEFIELD	G05	1	1C
US/NATO WEAPON SYSTEMS	G06	1	1C
THREAT WEAPON SYSTEMS	G07	1	1C
EFFECTS OF SMOKE ON WEAPONS SYSTEMS	G08	1	.4C; .6TV
OFFENSIVE OPERATIONS	G09	1	1C
DEFENSIVE OPERATIONS	G10	1	1C
FUNDAMENTALS OF DELIBERATE SMOKE OPERATIONS	G11	2	2C
TYPES OF SMOKE SCREENS	G12	1	.4C; .6TV

ANNEX TITLE AND SUBJECTS	ANNEX	HOURS	TYPE OF INSTRUCTION
EFFECTS OF WEATHER AND TERRAIN ON SMOKE	G13	2	1C; 1D
SMOKE EQUIPMENT AND MUNITIONS	G14	2	1C; 1PE1
M3A3 OPERATION AND MAINTENANCE	G15	5	5PE1
PLANNING SMOKE OPERATIONS - OFFENSE	G16	4	2C; 2PE3
SMOKE EXERCISE - OFFENSE	G17	4	4PE1
PLANNING SMOKE OPERATIONS - DEFENSE	G18	4	2C; 2PE3
SMOKE EXERCISE - DEFENSE	G19	4	4PE1
SUPPORT OF HASTY SMOKE OPERATIONS	G20	2	2C
SMOKE SUPPORT OF SPECIAL OPERATIONS	G21	2	2C
SMOKE EXERCISE - RIVER CROSSING	G22	4	1C; 3PE1
SMOKE SEMINAR	G23	2	2S
EXAMINATION	G24	3	1E; 1E2; 1E3
HISTORY OF FLAME	G25	1	1C
LOW INTENSITY CONFLICT	G26	1	1C
MOUT	G27	1	1C
FLAME FUELS AND DEVICES	G28	3	1C; 1D; 1PE1
FLAME FIELD EXPEDIENTS	G29	1	1C
PREPARING FLAME, FIELD EXPEDIENTS	G30	5	4PE1; 1D
DETERMINING TRAINING LOCATION AND RESOURCES	G31	2	.5C; 1.5PE2
SELECTING TASKS FOR TRAINING DURING UNSCHEDULED TIME	G32	1	.5C; .5PE2
TRAINING ROLE OF OFFICERS/NCOs	G33	1	1C
PLATOON TRAINING MEETING	G34	2	.5C; 1.5PE2

TRADOC ENLISTED TRAINING STRATEGY CONFERENCE
21 AUGUST 1979
FORT LEAVENWORTH, KANSAS

A COMMANDANT'S TRAINING STRATEGY

by
MG William J. Hileman
Commander
US Army Signal Center and Fort Gordon
Ft. Gordon, Georgia

A COMMANDANT'S TRAINING STRATEGY

— AND —

A LARGE GAP

— AND —

HOW WE MIGHT FILL THE GAP

A COMMANDANT'S TRAINING STRATEGY

THE FIRST COMMANDMENT

"ALL THAT I DO SHOULD HAVE THE ULTIMATE PURPOSE OF IMPROVING UNIT READINESS"

—THEREFORE—

"MY TRAINING STRATEGY WILL BE FOCUSED ON UNITS"

"MY GOAL DOES NOT REVOLVE AROUND TRAINING THE SOLDIER BUT RATHER ON ASSURING THAT THE UNIT HAS A TRAINED SOLDIER"

A REVIEW OF THE INFORMATION PRESENTED AT THE 3 APRIL COMMANDERS' CONFERENCE WHICH PROVIDED THE BASIS FOR THE SIGNAL SCHOOL'S TRAINING STRATEGY. THERE IS A DIFFERENCE AND MANY PEOPLE MISUNDERSTAND. THE NEEDS OF THE UNIT MUST BE KNOWN AND TRAINING DESIGNED TO MEET THOSE NEEDS...NOT THE INSTITUTION'S/SCHOOL'S NEEDS. MY ONLY COMMANDMENT.

A COMMANDANT'S TRAINING STRATEGY

FOCUS ON UNITS

THE UNIT ENVIRONMENT AS I SEE IT!

- **SOLDIERS ARE REPORTING TO UNITS LACKING SOME OF THE NEEDED SKILLS**
- **THE READING LEVEL OF TODAY'S SOLDIER IS LOW**
- **WITHOUT UTILIZATION AND CONTINUOUS REINFORCEMENT TRAINING IN UNITS, SOLDIERS FORGET MUCH OF WHAT THEY WERE TAUGHT**
- **THERE ARE ENOUGH REFERENCE MANUALS AND EXTENSION TRAINING MATERIALS TO FILL A SOLDIER'S ROOM**

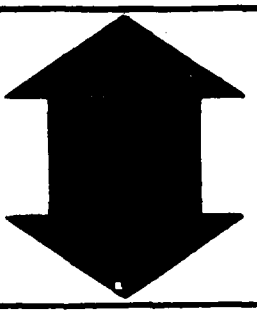
FOCUSING ON THE UNIT IS PARAMOUNT.

A COMMANDANT'S TRAINING STRATEGY (CONT)

FOCUS ON UNITS

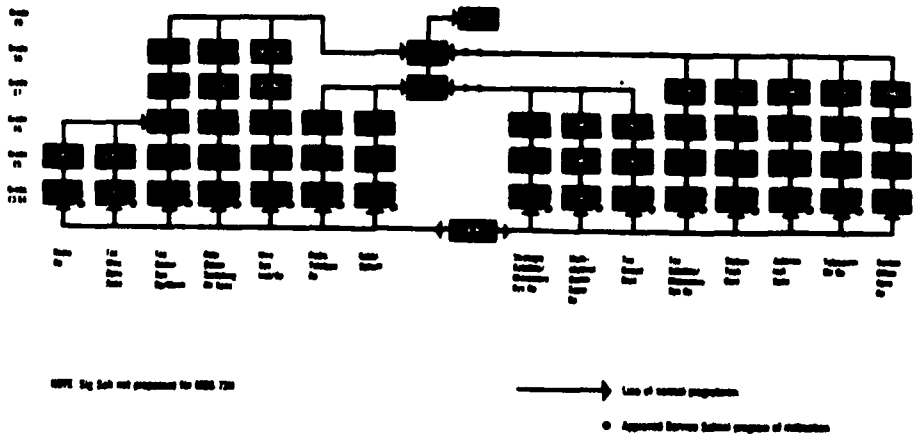
- THERE CONTINUES TO BE A LACK OF UNDERSTANDING ABOUT THE RELATIONSHIP BETWEEN UNIT TRAINING (READINESS) AND INDIVIDUAL TRAINING
- TODAY, THE COMMUNICATOR'S EQUIPMENT IN UNITS IS COMPLEX AND DIVERSE
- THE IMPACT OF DIV-86 UPON COMMUNICATIONS/ ELECTRONICS IS MIND BOGGLING
- INDIVIDUALS TEND TO FOCUS ON THEIR JOB AND NOT THE TOTAL SYSTEM
- THE PRINCIPAL TRAINER, IN UNITS, IS THE NCO

THE GAP

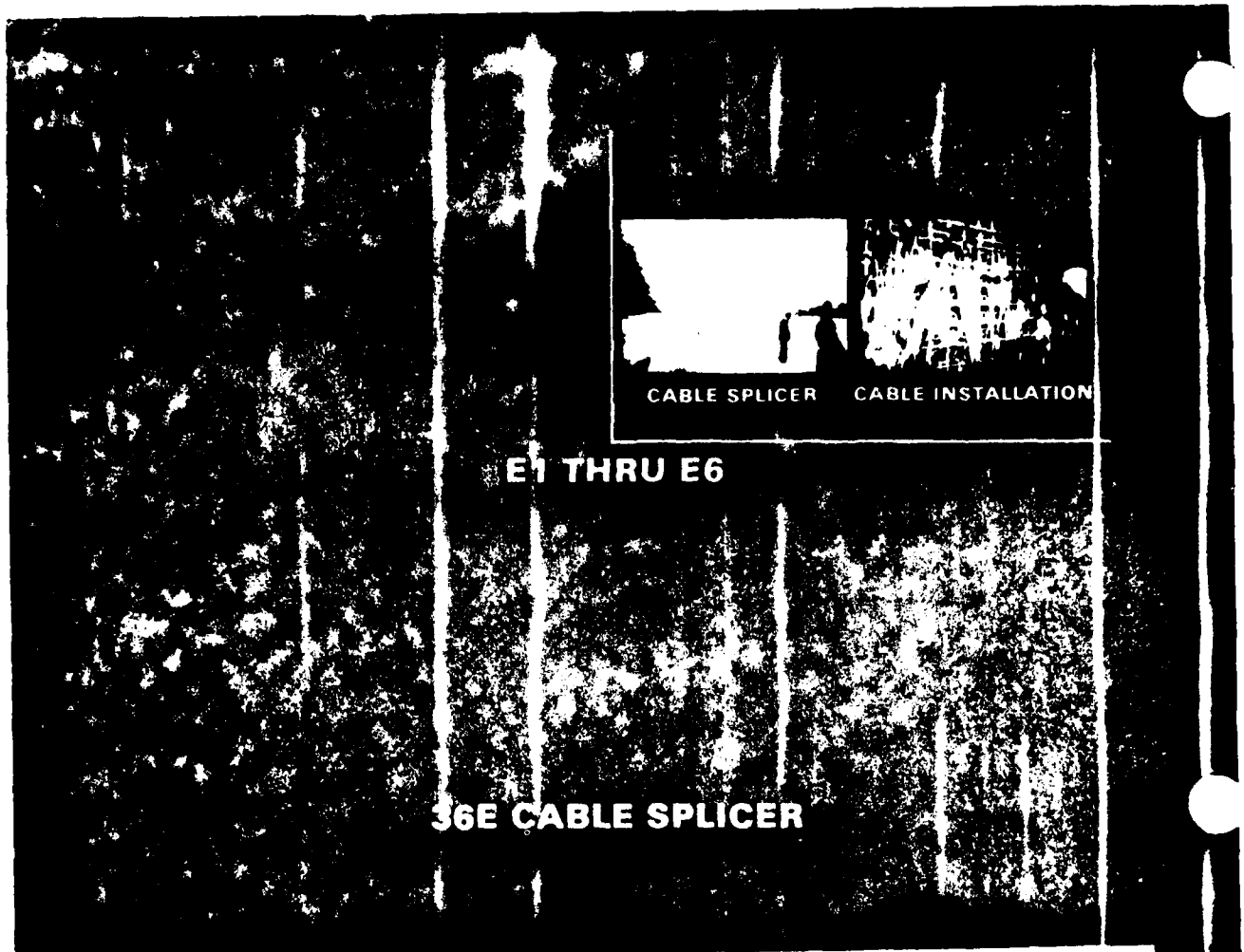


WE HAVE NOT TRAINED THE NCOs TO DO THE JOB

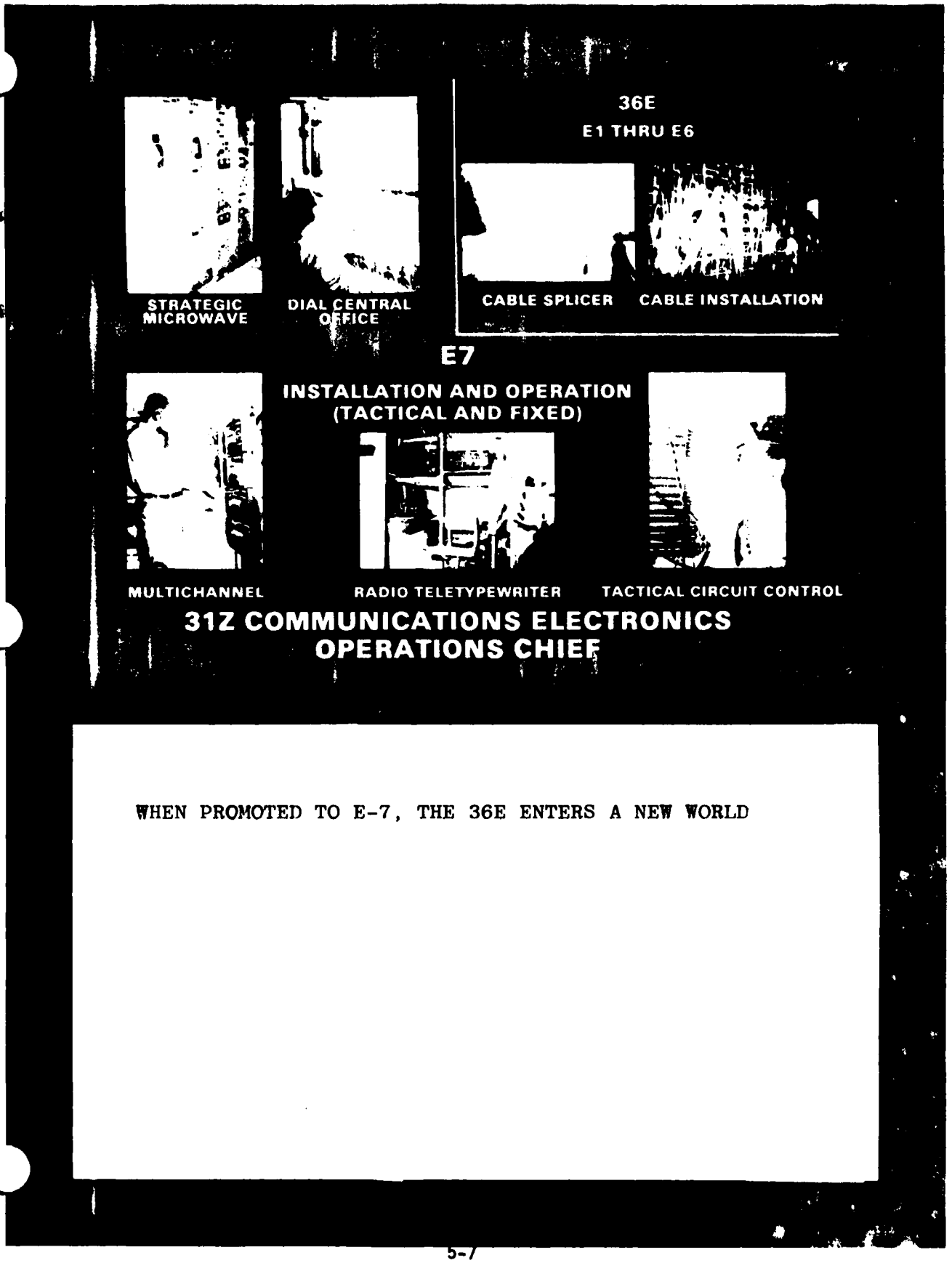
THIS FACT IS WHAT IMPRESSED UPON US THE NEED TO HAVE A TRAINING STRATEGY...A STRATEGY WHICH OVERCOMES OUR MOST SIGNIFICANT SHORTFALL.



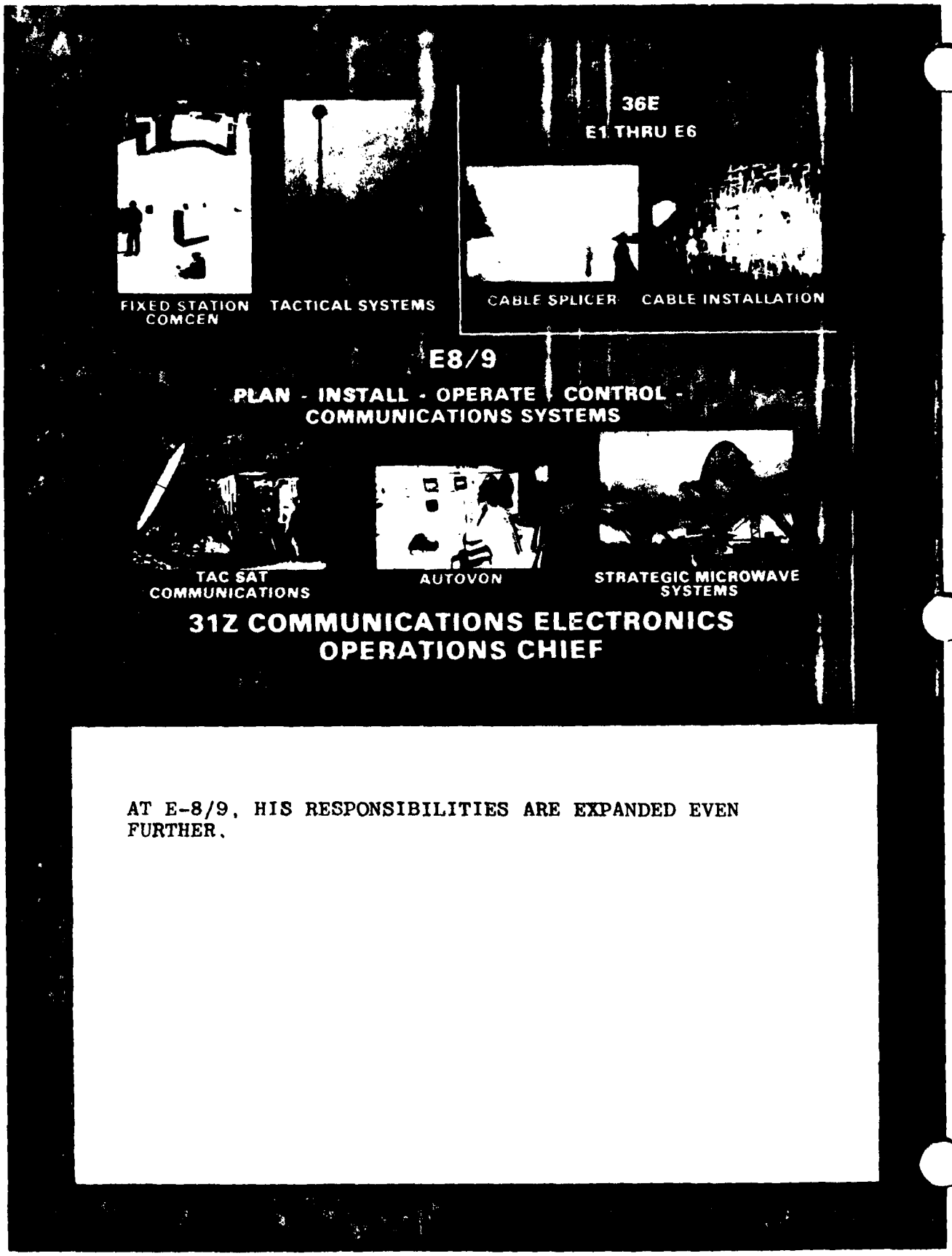
THE NUMBER OF SKILL LEVELS AND DISSIMILAR MOS IN SIGNAL CORPS CMF, I.E., CMF 31, DICTATES THE NEED FOR PROGRESSIVE TRAINING.



THE CABLE SPLICER, MOS 36E, IS A GOOD EXAMPLE.



WHEN PROMOTED TO E-7, THE 36E ENTERS A NEW WORLD



AT E-8/9, HIS RESPONSIBILITIES ARE EXPANDED EVEN FURTHER.

CMF-31

A SKILLED TECHNICAL TRAINER?

AN NCO ONLY TRAINED IN CABLE SPLICING OR ANTENNA INSTALLATION

WHEN PROMOTED TO E-7/8 IS RESPONSIBLE TO:

- **ENGINEER AND OPERATE AN ENTIRE DIV/CORPS COMMUNICATIONS SYSTEM INTEGRATING-TELEPHONE-CABLE-RADIOS-SATELLITES-MICROWAVE/MULTICHANNEL-COMPUTER SWITCHING SYSTEM**

AND

IS RESPONSIBLE TO TRAIN SOLDIERS IN THE SECTION/UNIT

A DEFINITE NEED FOR PROGRESSIVE TRAINING...

TO
FILL THE GAP

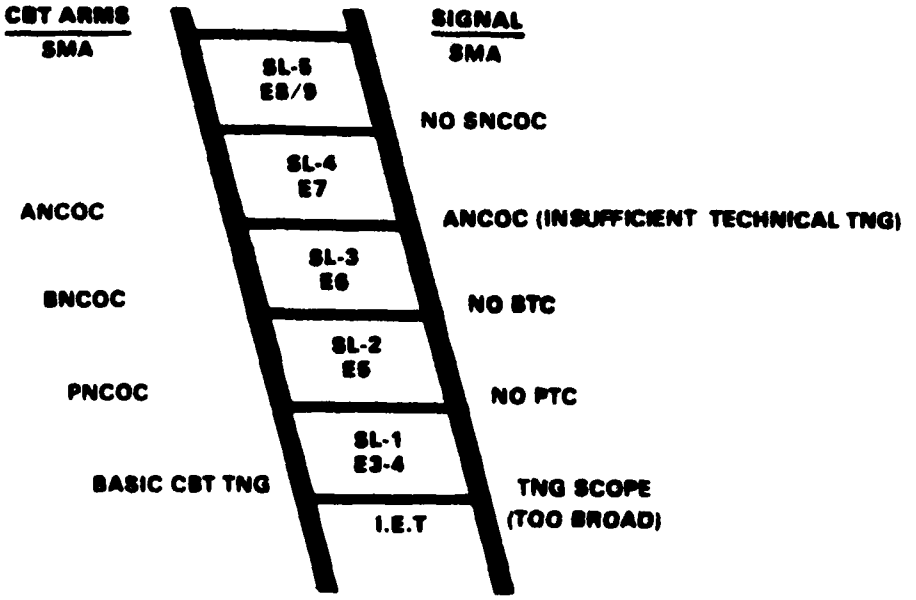
WE MUST PROVIDE THE COMMUNICATIONS NCO WITH THE TECHNICAL TRAINING REQUIRED TO

- **DO THEIR JOBS**
- **TRAIN THEIR SOLDIERS TO DO THEIR JOBS**

TECHNICAL TRAINING REPPESENTS THE GREATEST SHORTFALL.

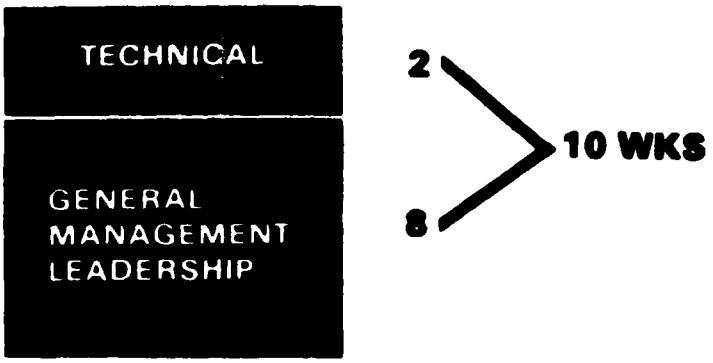
WHAT DO WE HAVE TODAY?

CURRENT NCO RESIDENT TRAINING DOES NOT PROVIDE SIGNAL TECHNICAL NEEDS



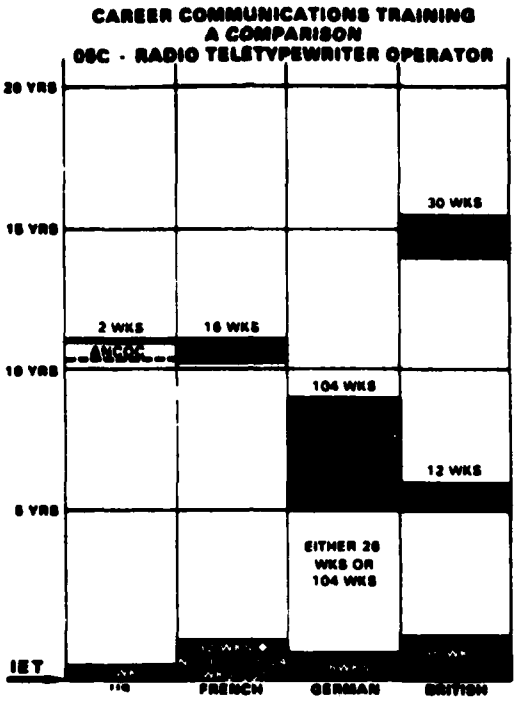
NCO PROGRESSIVE TRAINING, AS ENVISIONED UNDER EPMS, IS WEAK TC NONEXISTENT IN SIGNAL.

COURSE CONTENT OF ANCOC

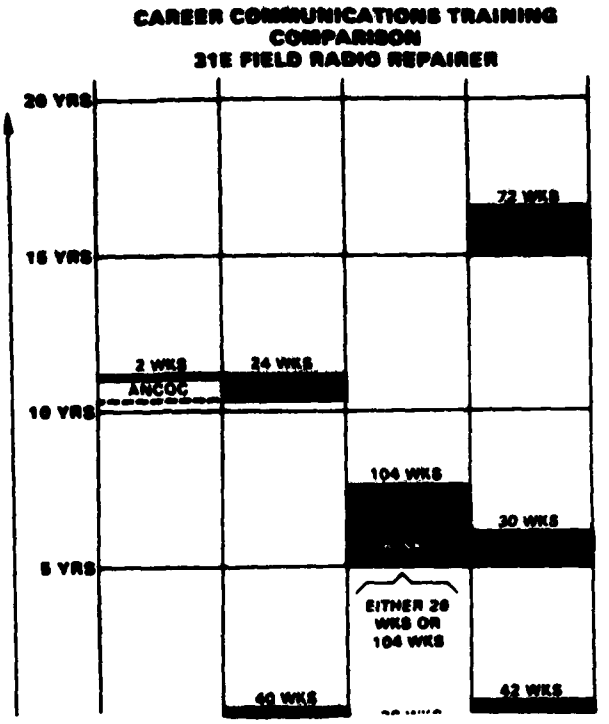


INSUFFICIENT TECHNICAL TRAINING IN A WORLD OF COMPLEX EQUIPMENT.

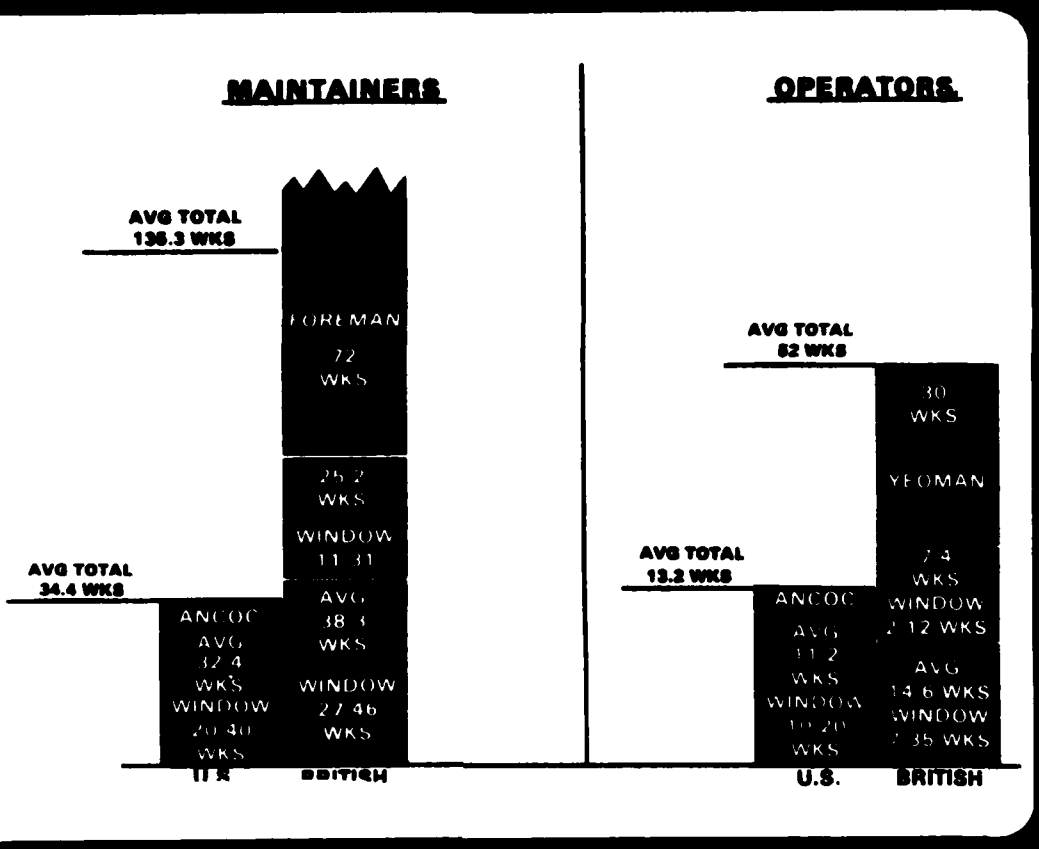
WHERE SHOULD WE BE GOING



OUR ALLIES EXCEL IN TECHNICAL TRAINING.



OUR ALLIES EXCEL IN TECHNICAL TRAINING.



THE BRITISH TRAIN TECHNICAL COMPETENCE. COMPARE OUR OPERATOR/MAINTAINER TRAINING TO THEIRS.

THE BOTTOM LINE

- WE ARE GOING TO PROVIDE NCO TRAINING
- THE QUESTIONS ARE
  - HOW TO IMPLEMENT IT
  - HOW TO MANAGE IT
  - HOW TO RESOURCE IT

QUESTIONS THAT MUST BE ANSWERED IN ORDER TO CLOSE THE GAP.

THOUGHTS

- INITIAL ENTRY TRAINING FOCUSED ON FIRST ASSIGNMENT
  - ▲EXAMPLE: 31M
- COMBINE MORE OPERATOR COURSES AND PRODUCE THE BASIC COMMUNICATOR
  - ▲EXAMPLES: 36K, 36C, 05B, 31V
- CONTRACT OUT AS MUCH AS WE CAN
- WE NEED MILPERCEN HELP
- WE WILL NEED ARMY COMMITMENT TO RESIDENT PORTION
- IF WE REALLY WANT TO DO IT RIGHT, YEOMAN AND FOREMAN OF SIGNALS TRAINING WOULD BE TIED TO PROMOTION

SOME ISSUES THAT WERE ADDRESSED TO BRING TECHNICAL TRAINING UP TO YEOMAN AND FOREMAN STANDARDS.

CG TRADOC GUIDANCE

PHASE I - IDENTIFY OPTIMUM BALANCE BETWEEN IET, NCOES, TRAINING SUPPORT MATERIAL USING PRESENT RESOURCES

PHASE II - DETERMINE TNG RESOURCES REQUIRED FOR UNITS TO ACHIEVE & MAINTAIN ARTEP & SM STANDARDS WITHIN PRESENT CMF STRUCTURE

PHASE III - IDENTIFY & NARROW THE GAP BETWEEN CAPABILITIES & REQUIREMENTS WITH RESTRUCTURED CMF

THE METHODOLOGY EXTRACTED FROM COMMANDING GENERAL TRADOC GUIDANCE.

THE APPROACH

- UNIT NEEDS
  - STRUCTURE
  - PERSONNEL
  - EQUIPMENT
- JOB AND TASK ANALYSIS
  TRAINING BASED ON UNIT NEEDS
  - IN THE FIELD
  - IN THE INSTITUTION
- COST ANALYSIS
  - PHASE I
  - PHASE II
  - PHASE III

THE FUNDAMENTAL STEPS IN FORMING THE STRATEGY. NOTE THAT UNIT NEEDS ARE FOREMOST.

PHASE I
TRAINING ANALYSIS

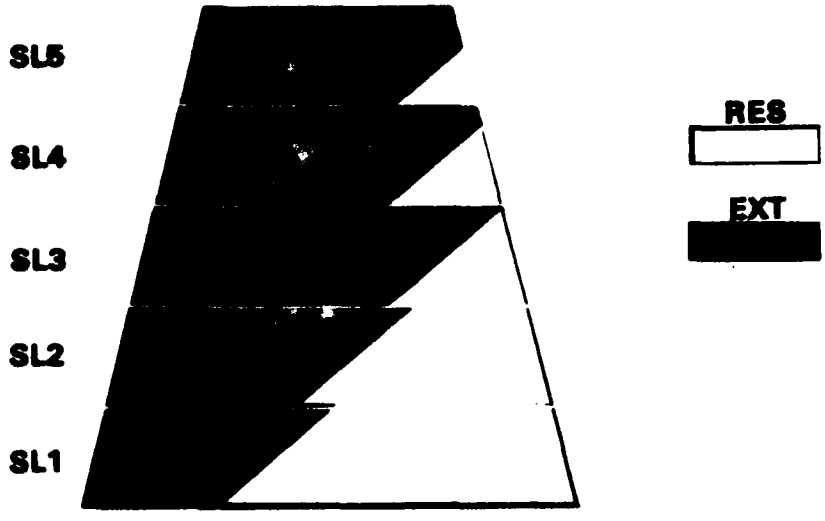
TRAINING ANALYSIS

FIVE SIGNAL CORPS CMFs

- 28 AVN C-E SYS MAINT
- 29 C-E MAINT
- 31 C-E OPERATIONS
- 74 ADP
- 84 PUBLIC AFFAIRS AND AV

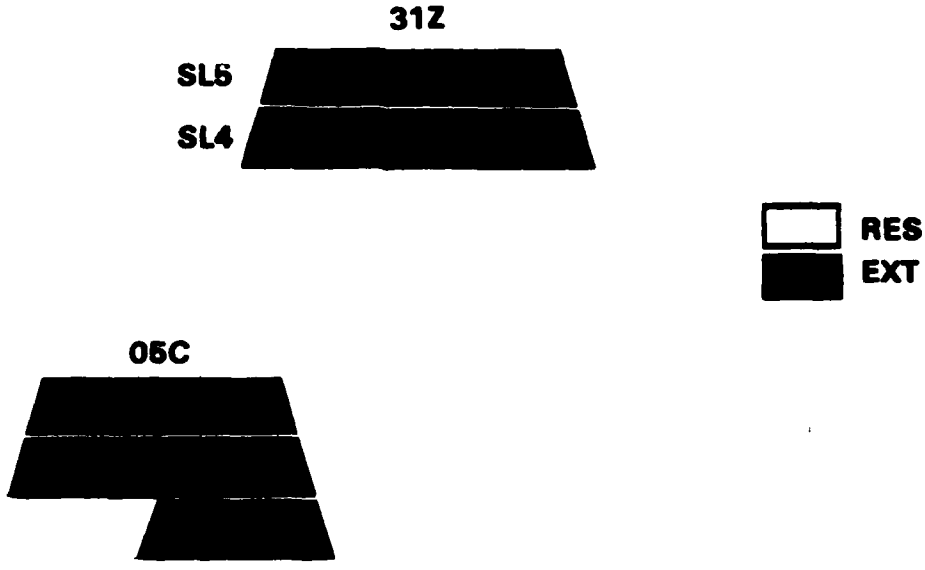
THE TOTAL SIGNAL CORPS RESPONSIBILITY...108,000 ACTIVE AND RESERVE SOLDIERS IN FIVE CMF.

ORIGINAL EPMS TRAINING CONCEPT



HOW TRAINING WAS ENVISIONED UNDER ORIGINAL EPMS PHILOSOPHY.

CURRENT
INDIVIDUAL MOS TRAINING STRUCTURE



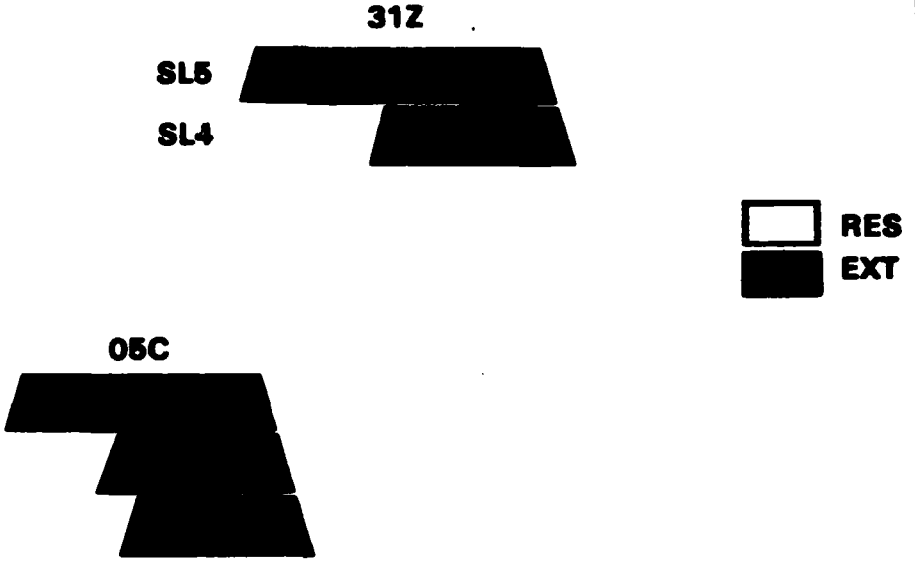
AN EXAMPLE OF TRAINING IN ONE SIGNAL MOS (05C).

THE CURRENT MOS TRAINING STRUCTURE'S PROBLEMS

- TASK DISTRIBUTION - ANYTHING THAT NEEDED RESIDENT TRAINING WAS THROWN INTO IET. (SKILL LEVEL 1, 2, 3 TASKS)
- IET PAYS LIP SERVICE TO SOME OF THE TASKS BECAUSE OF TIME CONSTRAINTS
- WHEN THE SOLDIER NEEDS SKILL LEVEL 2 & 3 MASTERY, 3 YEARS LATER, THERE IS NO TRAINING
- WHEN THE SOLDIER GETS PROMOTED INTO A CAPPER MOS
  - AGAIN THERE IS NO TRAINING AND FOR THE MOST PART THE NCO IS NOT QUALIFIED TECHNICALLY TO HOLD THE MOS

COMING TO GRIPS WITH THE REAL WORD DURING PHASE I ANALYSIS UNCOVERED SHORTCOMINGS.

PROPOSED
INDIVIDUAL MOS TRAINING STRUCTURE



ENVISIONED PROGRESSIVE TRAINING TO FILL THE GAP FOR 05C PERSONNEL TO BECOME A QUALIFIED 31Z TRAINER.

WITH THE PROPOSED STRUCTURE

- SKILL LEVEL 1 TASKS WILL BE TAUGHT IN IET
- SKILL LEVEL 2, 3, 4 TASKS REQUIRING RESIDENT TRAINING WILL BE TAUGHT IN LATER RESIDENT TRAINING
- BECAUSE OF COSTS AND MANAGEMENT PROBLEMS INVOLVED WITH RESIDENT TRAINING AT EACH SKILL LEVEL , RESIDENT TRAINING WILL BE SET AT SKILL LEVEL 1, SKILL LEVEL 2/3, AND SKILL LEVEL 4/5
- ADVANCED INDIVIDUAL TRAINING WILL BE PROVIDED WITHIN THE MOS
- CAPPER/MERGER TRAINING WILL BE PROVIDED WHEN THE NCO MOVES INTO THE BROADER TECHNICAL FIELD

REALIGNMENT OF TASKS TO ACCOMMODATE TRAINING AT ALL SKILL LEVELS.

WHAT WE EXPECT TO ACHIEVE

- WILL BE ABLE TO FOCUS IN IET ON THE SOLDIER'S FIRST JOB
- WILL HAVE SOMETHING TO OFFER THE SOLDIER AT THE END OF HIS FIRST ENLISTMENT
- WILL ASK FOR ADDITIONAL COMMITTMENT IN RETURN FOR THE TRAINING
- WILL PROVIDE SKILL LEVEL 2, 3, 4 TRAINING WHERE IT IS NEEDED - TO THE PROFESSIONAL

THE END PRODUCT - A QUALIFIED SOLDIER, TECHNICIAN AND TRAINER.

HOW TO RESOURCE IT (PHASE I)

A TRAINING ANALYSIS EXAMPLE

MOS 05C, RADIO TELETYPEWRITER (RATT) OPERATOR, MOS AUTHORIZED SLOTS 6552.

RATT RIG



USING THE 05C MOS WITH 6552 PERSONNEL COSTING WAS ACCOMPLISHED USING 14 KEY FACTORS.

COST FACTORS

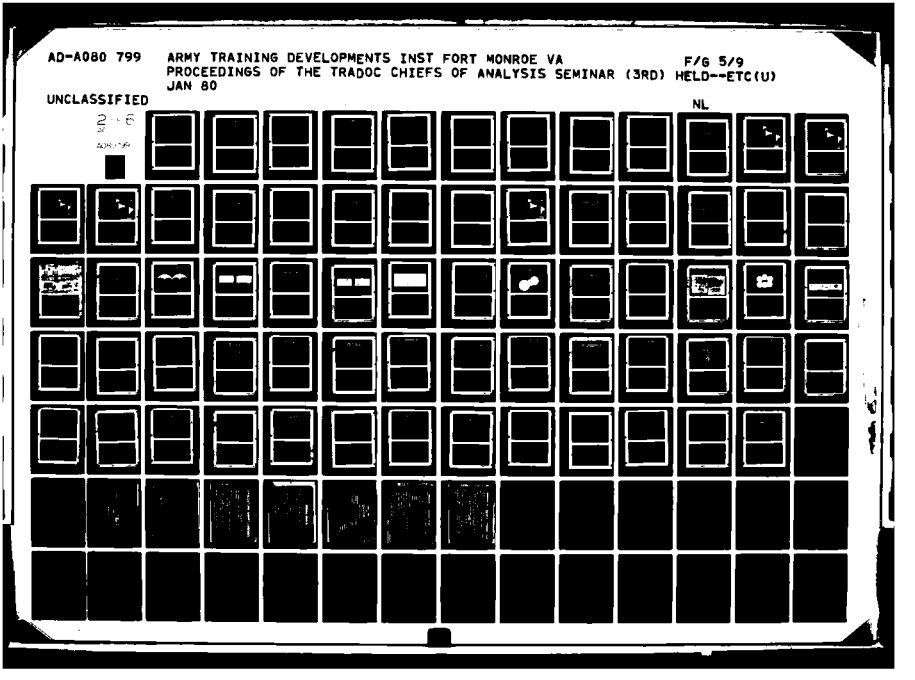
ANALYSIS BASED ON TOTAL ARMY COST PER STUDENT TRAINING WEEK

- MILITARY INSTRUCTORS
- MILITARY OVERHEAD (ADMIN)
- CIVILIAN INSTRUCTORS
- CIVILIAN OVERHEAD (ADMIN)
- EQUIP DEPRECIATION
- STUDENT PAY
- BASE OPS COST - CIV
- BASE OPS COST - MIL
- TRAINING AIDS - CIV
- TRAINING AIDS - MIL
- MATERIAL DEVELOPER SUPPORT - CIV
- MATERIAL DEVELOPER SUPPORT - MIL
- AMMUNITION
- TRAVEL

KEY COST FACTORS.

AD-A080 799 ARMY TRAINING DEVELOPMENTS INST FORT MONROE VA F/G 5/9
PROCEEDINGS OF THE TRADOC CHIEFS OF ANALYSIS SEMINAR (3RD) HELD--ETC(U)
JAN 80

UNCLASSIFIED NL



CURRENT
05C (RATT) SKILL LEVEL 1

FORMULA

OF STUDENTS × **#OF WEEKS IN TRAINING** × **COST PER STUDENT WEEK** = **COST**

THE COSTING FORMULA.

CURRENT
05C (RATT) SKILL LEVEL 1

FORMULA

# OF STUDENTS	×	# OF WEEKS IN TRAINING	×	COST PER STUDENT WEEK	=	COST
STUDENTS	×	BASIC RES WKS	×	COST PER STU WK	=	COST FOR BASIC TNG
2650	×	5.2	×	$362	=	$4,950,560

CALENDAR YEAR 1978 DATA WAS USED IN THE COMPUTATIONS.
BASIC TRAINING COST SHOW FOR THE 05C MOS.

CURRENT
05C (RATT) SKILL LEVEL 1

FORMULA

# OF STUDENTS	×	#OF WEEKS IN TRAINING	×	COST PER STUDENT WEEK	=	COST

STUDENTS	×	BASIC RES WKS	×	COST PER STU WK	=	COST FOR BASIC TNG
2650	×	5.2	×	$352	=	$4,850,560

STUDENTS	×	TECH RES WKS	×	COST PER STU WK	=	COST FOR TECH TNG
2650	×	9.8	×	$825	=	$21,425,250

AIT/TECHNICAL TRAINING COSTS FOR 05C DURING IET COMPUTED.

CURRENT
05C (RATT) SKILL LEVEL 1

FORMULA

# OF STUDENTS	×	# OF WEEKS IN TRAINING	×	COST PER STUDENT WEEK	=	COST

STUDENTS	×	BASIC RES WKS	×	COST PER STU WK	=	COST FOR BASIC TNG
2660	×	5.2	×	$362	=	$4,880,560
STUDENTS	×	TECH RES WKS	×	COST PER STU WK	=	COST FOR TECH TNG
2660	×	9.8	×	$826	=	$21,426,280
COST FOR BASIC TNG	+	COST FOR TECH TNG			=	TOTAL COST

TOTAL TRAINING COSTS FOR AN 05C UNDER OST-1.

PROPOSED
05C (RATT) SKILL LEVEL 1

STUDENTS		BASIC RES WKS		COST PER STU WK		COST FOR BASIC TNG
2660	X	5.2	X	$362	=	$4,990,560

COSTS FOR BASIC TRAINING UNDER PROPOSED POI FOR 05C.

PROPOSED
05C (RATT) SKILL LEVEL 1

STUDENTS	X	BASIC RES WKS	X	COST PER STU WK	=	COST FOR BASIC TNG
2650	X	8.2	X	$352	=	$4,850,560

STUDENTS	X	TECH RES WKS	X	COST PER STU WK	=	COST FOR TECH TNG
2650	X	6.8	X	$625	=	$14,868,500

COSTS FOR AIT UNDER PROPOSED POI FOR 05C.

PROPOSED
05C (RATT) SKILL LEVEL 1

STUDENTS	X	BASIC RES WKS	X	COST PER STU WK	=	COST FOR BASIC TNG
2650	X	5.2	X	$352	=	$4,850,560

STUDENTS	X	TECH RES WKS	X	COST PER STU WK	=	COST FOR TECH TNG
2650	X	6.8	X	$825	=	$14,866,500

COST FOR BASIC TNG	+	COST FOR TECH TNG	=	TOTAL COST
$4,850,560	+	14,866,500	=	$19,717,060

WHAT THE DOLLAR BREAKOUT LOOKS LIKE UNDER THE PROPOSED 05C POI FOR SKILL LEVEL 1 TRAINING.

PROPOSED
05C (RATT) SKILL LEVEL 2 /3

STUDENTS	x	TECH RES WKS	x	COST PER STU WK	=	COST FOR TECH TNG
541	x	7	x	$825	=	$3,124,275

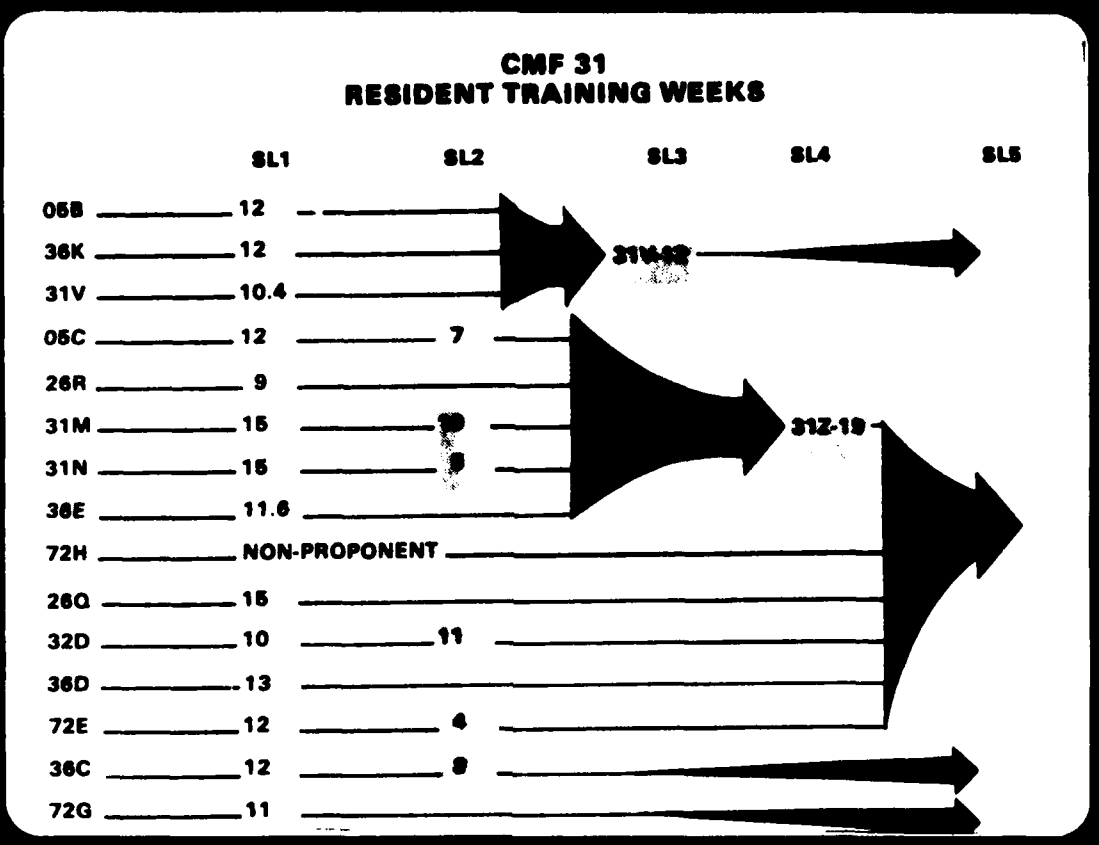
COSTING FOR 05C SL-2/3 TRAINING.

05C (RATT) TRADE-OFFS

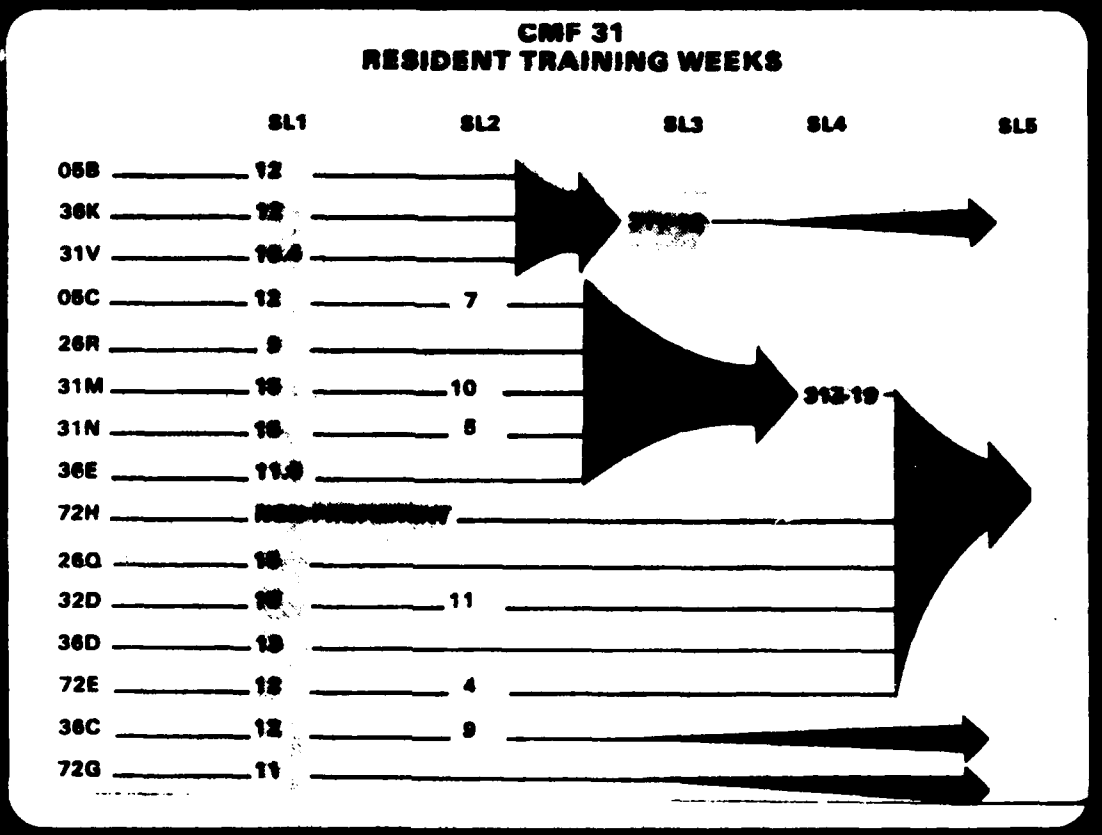
SL1 SAVINGS	–	SL2 COST	=	TOTAL SAVINGS
$6,558,750	–	$3,124,275	=	$3,434,475

DOLLARS GENERATED IN ONE MOS (05C) CAN BE APPLIED TO IMPLEMENT TRAINING IN OTHER MOS.

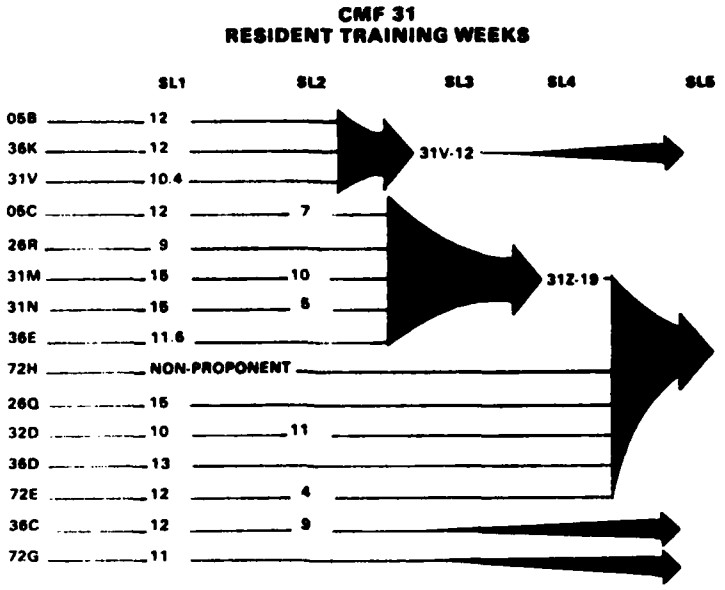
• • • • • AND THE
REST OF
CMF 31



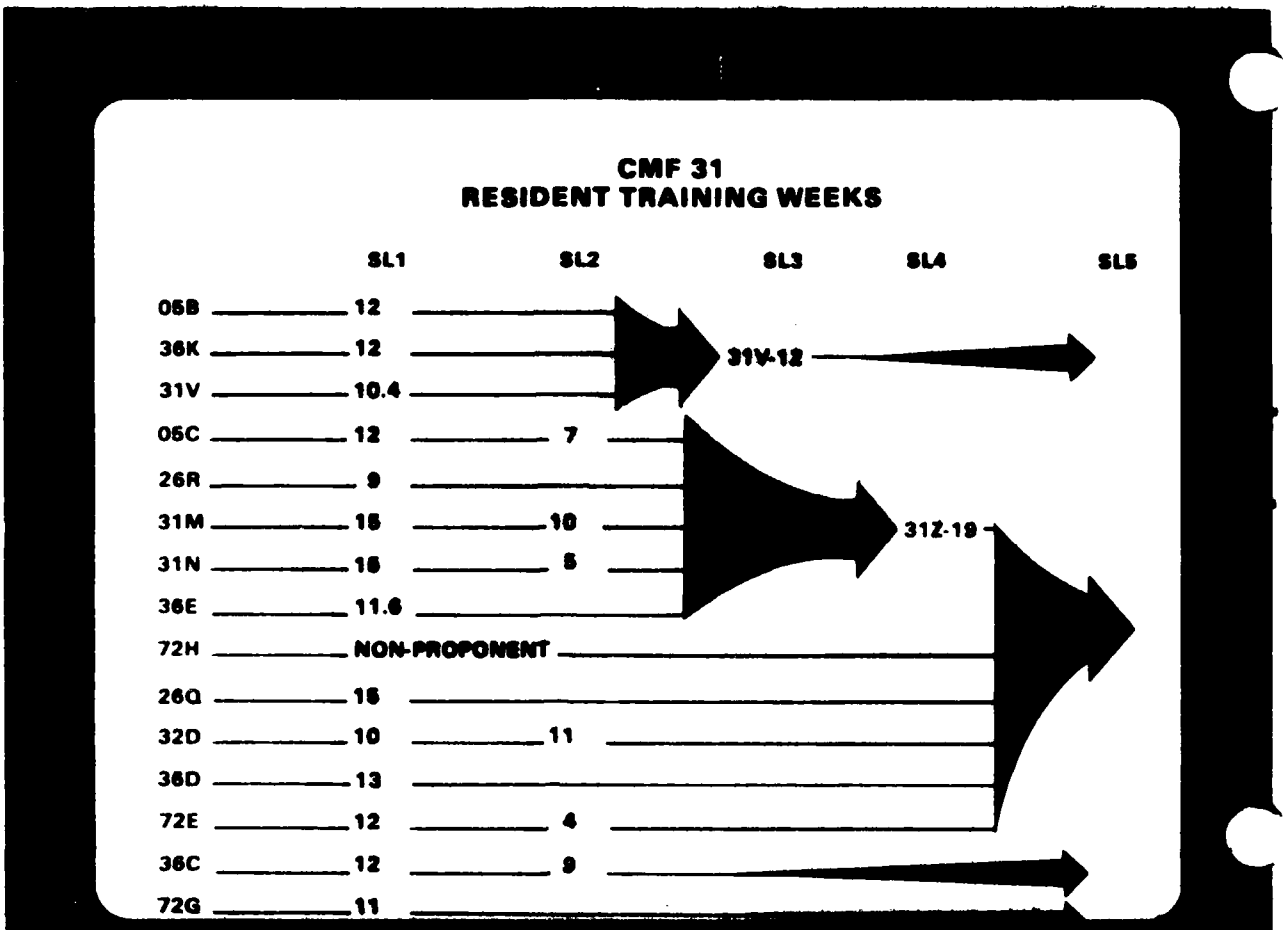
SKILL LEVEL I TRAINING THAT IS READY FOR APPROVAL AND IMPLEMENTATION.



SKILL LEVEL 2 TRAINING THAT IS READY FOR APPROVAL AND IMPLEMENTATION.



SKILL LEVEL 3 TRAINING FOR 31V EXISTS NOW AT FORT SILL. AN ADDITIONAL THREE WEEKS ABOVE THE CURRENT NINE WEEK PROGRAM IS PROJECTED.



THE EXISTING ANCOC COURSE FOR CMF 31 WILL BE THE VEHICLE.

ADDITIONAL RESOURCES
CMF 31

PERSONNEL: +7

FACILITIES:

CLASSROOMS	+1
QUARTERS	−177 BEDS
TNG AREAS	NO PROBLEM

EQUIPMENT: OK IF WE FILL OUR CURRENT AUTHORIZATION

THE BOTTOM LINE - I CAN SOLVE THE PROBLEM INTERNALLY AT FT GORDON

RESOURCES REQUIRED TO IMPLEMENT PHASE I - PROGRESSIVE TRAINING USING REVISED POI...ONLY A FORT GORDON PROBLEM.

THE TOTAL STORY FOR ALL SIGNAL CMF'S

CMF 28
CMF 29
CMF 31
CMF 74
CMF 84

THE PHASE I ANALYSIS COVERED OUR FIVE PROPONENT CMF.

RESIDENT TRAINING BASE IMPACT

	EXISTING COURSES	COURSES CHANGED	COURSES ADDED	COURSES DELETED
SL1	38	20	1	0
SL2	4	0	15	0
SL3	4	1	6	0
SL4	1	0	6	1

SUMMARY OF THE PHASE I CHANGES.

ANNUAL TRAINING INPUTS FOR NCO TRAINING

	MOS	STUDENTS
SL2	15	2383
SL3	6	551
SL4	6	315

THE PROJECTED INPUT APPEARS MANAGEABLE.

WEEKLY IN-TRAINING LOAD

AVERAGE STUDENT IN-TRAINING LOAD WILL REDUCE BY 177

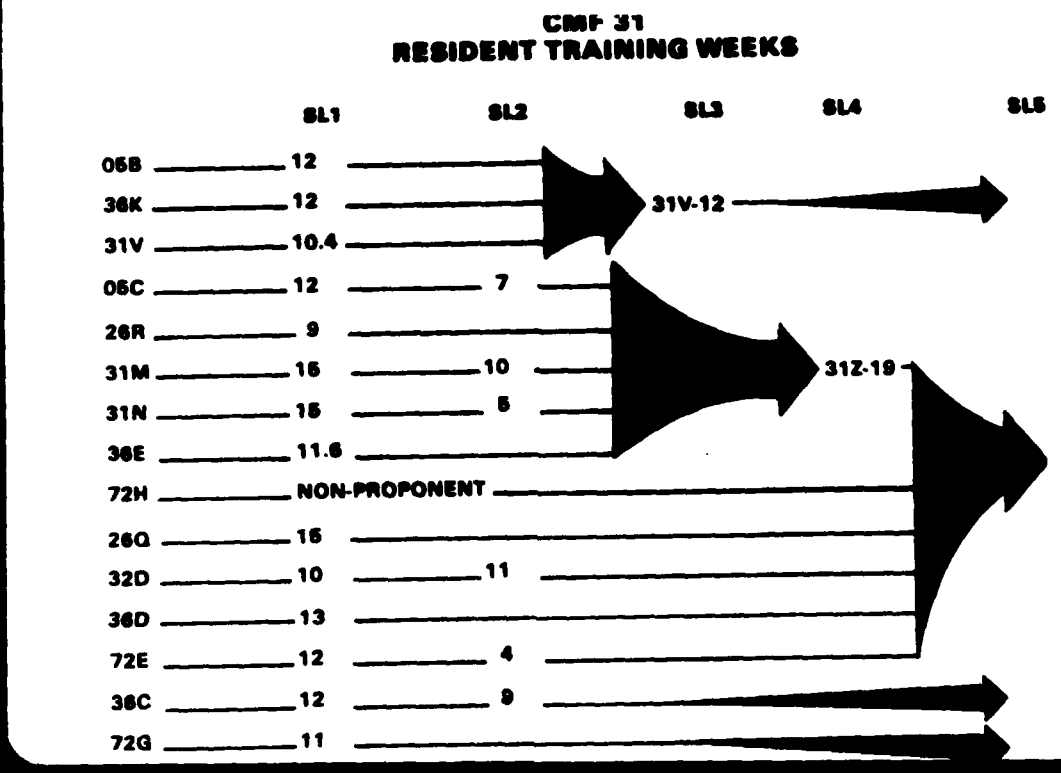
RESIDENT TRAINING COST SUMMARY

	SL1	SL2	SL3	SL4
ADD'L RES COST		$13,933,677	$2,443,866	$1,179,038
RES SAVINGS AVAILABLE	$24,355,596			

TOTALS

RES SAVINGS AVAILABLE	$24,355,596
RES COST INCREASE	$17,556,581
TDY COST INCREASE	$1,465,370
NET SAVINGS TO OFFSET PHASE III COSTS	$5,333,645

OUR COMPUTATION INDICATES THAT FUNDS GENERATED BY PHASE I ACTIONS COULD BE APPLIED AS A PHASE III OFFSET.



WRAP-UP OF THE PHASE I ACTIONS.

TRADOC GUIDANCE
PHASE II

PHASE II

- DETERMINE TNG RESOURCES REQUIRED FOR UNITS TO ACHIEVE & MAINTAIN ARTEP & SM STANDARDS WITHIN PRESENT CMF STRUCTURE

PHASE II

- ANALYSIS INDICATES NO MAJOR RESOURCE CHANGE AT THE SIGNAL CENTER

- BUT -

- TO FOCUS ON UNITS WE SHOULD PUT ONE ADDITIONAL E-7 31Z TRAINING NCO IN THE SIGNAL BN S-3 (ALREADY PROJECTED FOR DIV 86)

NO MAJOR RESOURCE IMPACT, BUT A SKILLED NCO TRAINING MANAGER IS REQUIRED IN SIGNAL UNITS.

PHASE III
CMF RESTRUCTURE

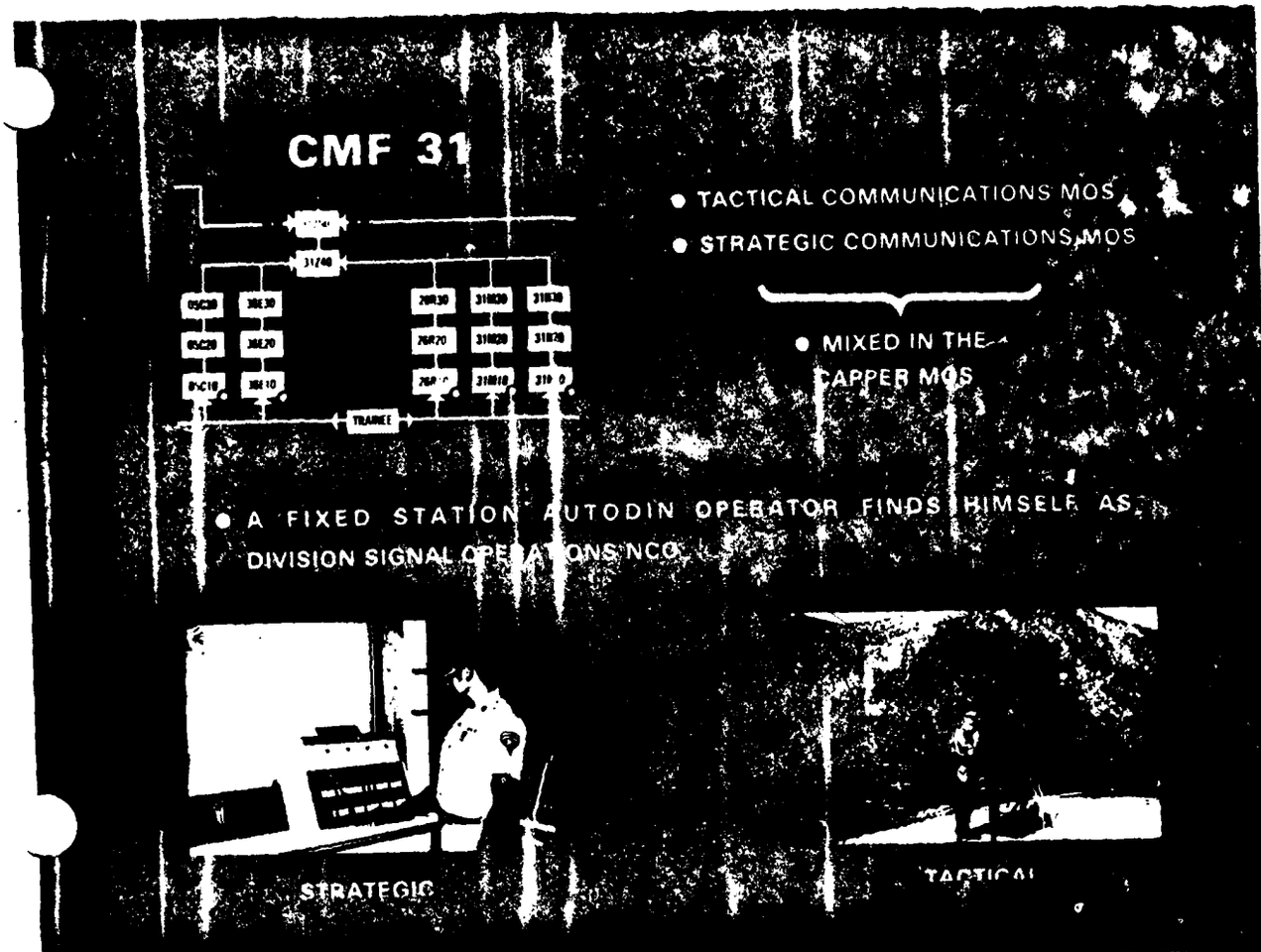
FIELD NEEDS

FOR PHASE III, WE CONTINUE TO FOCUS ON FIELD NEEDS.

CMF 31
THE CMF THAT:

- IMPACTS ON MANEUVER UNITS
- CORE OF DIVISION SIGNAL BN
- LARGEST SIGNAL POPULATION

CMF 31 IS A LOGICAL STARTING POINT.

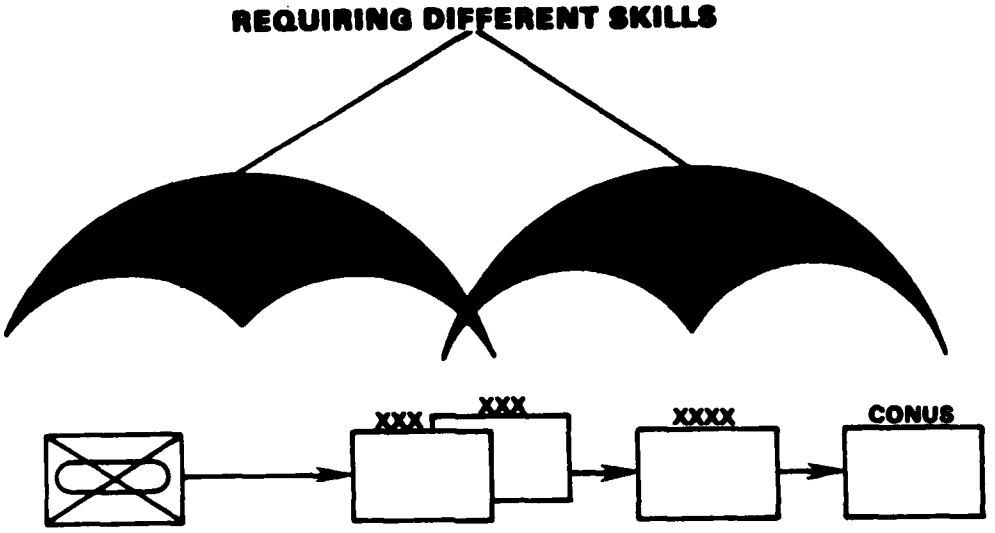


A SIGNIFICANT PROBLEM IS ISOLATED.

- DIVERGENT SKILLS AT CAPPER
  - COMPETENCE
  - TRAINING
- ENVIRONMENT
- JOB DISSATISFACTION

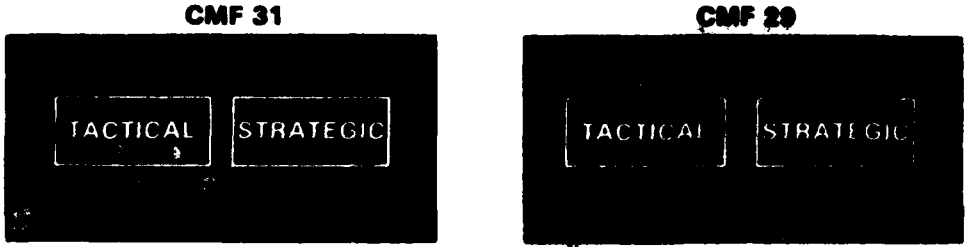
THE PROBLEM SIMPLY STATED.

A DIFFERENT ENVIRONMENT REQUIRING DIFFERENT SKILLS



THE TACTICAL ENVIRONMENT REQUIRES SPECIFIC SETS OF SKILLS.
THE STRATEGIC ENVIRONMENT REQUIRES SPECIFIC SETS OF SKILLS.

CURRENT SITUATION



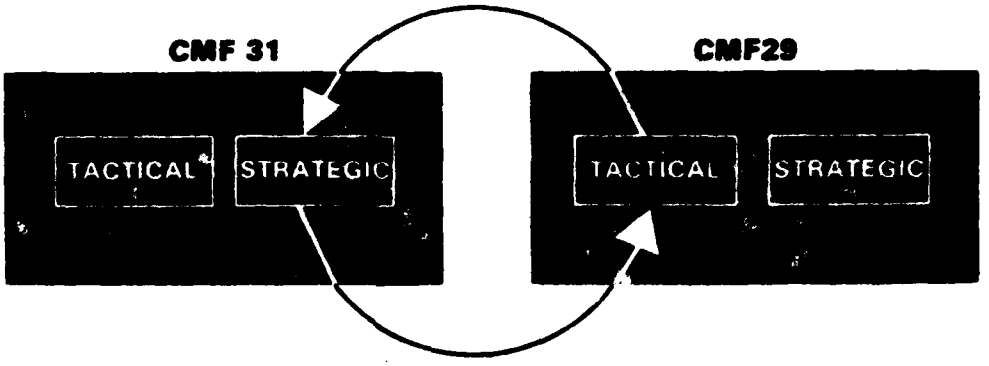
THE CURRENT STRUCTURE MIXES THE ENVIRONMENTS.

NEEDS IN FIELD

- **TRAINING**
  - **REQUIREMENT FOR SYSTEMS ORIENTATION**

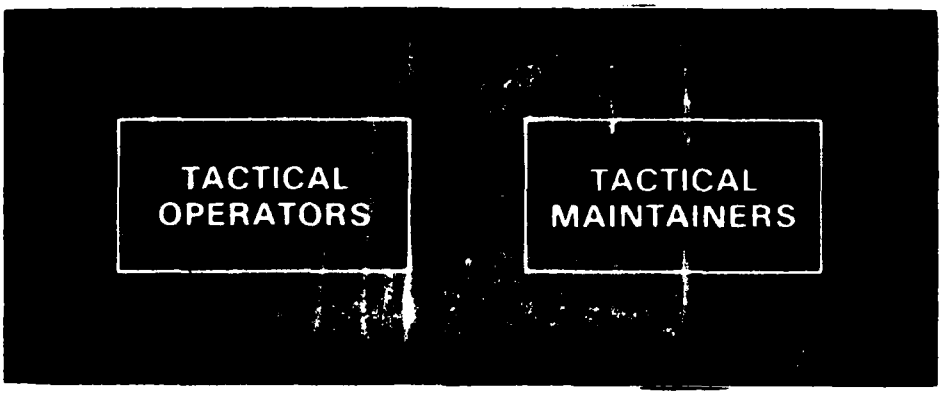
DICTATED THAT ...

THE REQUIRED SKILLS FORCE A MORE LOGICAL APPROACH.



THE LOGICAL APPROACH.

CMF 31



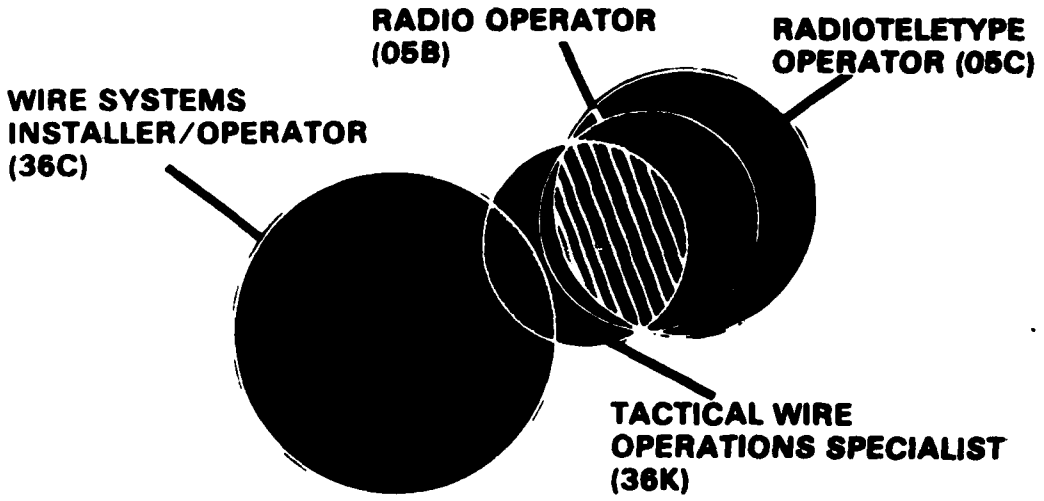
THE RESULT.

HOW TO DO THE RESTRUCTURING

- TASK COMMONALITY
- EQUIP COMMONALITY
- TOE/TDA CONSIDERATIONS
- ANALYSIS INPUT

FACTORS INFLUENCING THE SOLUTION.

"TASK COMMONALITY"



MOS ANALYSIS PINPOINTS POSSIBLE RESOURCE SAVINGS, PROVIDES RATIONALE FOR MOS/CMF STRUCTURE AND HAS SIGNIFICANT IMPACT ON TOE/TDA DEVELOPMENT.

EQUIP COMMONALITY

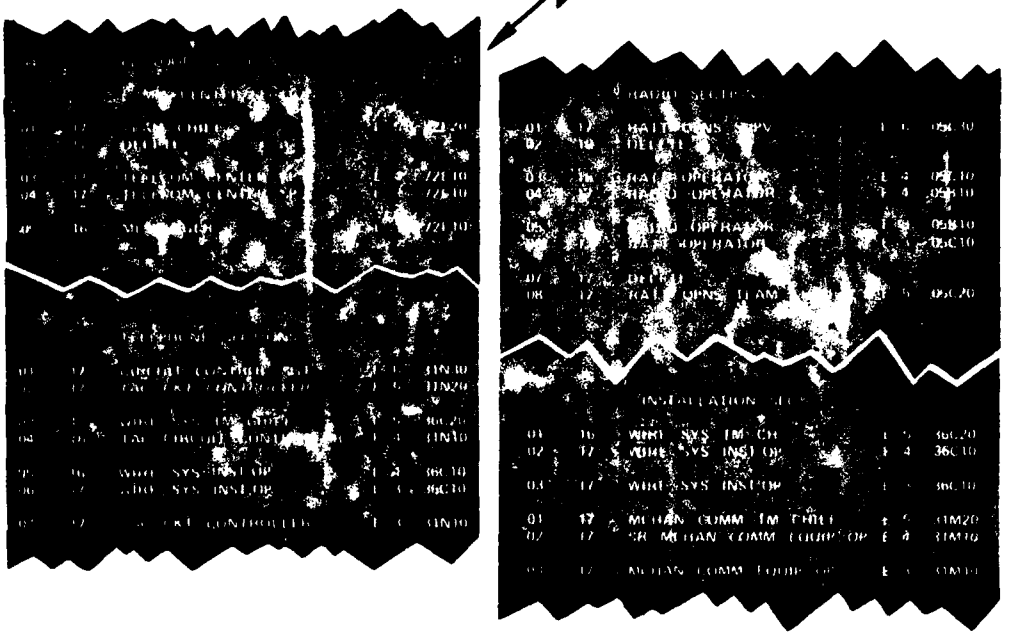
AN/TCC-65	26Q 31M
AN/TCC-61	26Q 31M
AN/GRC-106	05B 05C 31M
AN/GRA-6	05B 05C
AN/GRA-39	05B 05C
AN/FRC-93	05B 05C
AN/PRC-74	05B 05C

EQUIPMENT COMMONALITY CAN PROVIDE THE BASIS FOR MOS/CMF EVALUATION; PINPOINTS POSSIBLE RESOURCE SAVINGS.

EQUIP COMMONALITY (CONT)

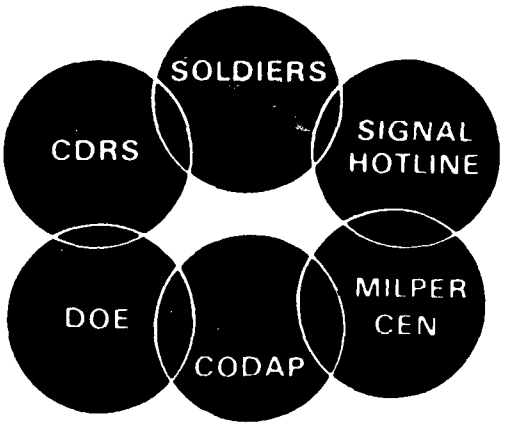
AN/VRC-49	05B 05C 36K
AN/PRC-77	05B 05C 36K
TA-312/PT	36C 36K
TA-341/PT	36C 36K
SB-3082	36C 36K
SB-86	36C 36K
SB-22	05B 05C 31N 31V 36K
GENERATORS	ALL OF CMF31 EXCEPT FOR 36D 36E 72C

TOE/TDA AUTHORIZATIONS
"B" COMPANY - DIV SIG BN - PLT SGT



UNIT MISSION DEMANDS THAT A SUPERVISOR KNOW ABOUT THE PEOPLE AND THE SKILLS HE SUPERVISES AND TRAINS... SHOULD PROVIDE THE BASIS FOR CAREER PROGRESSION AND DICTATE THE TRAINING HE OR SHE RECEIVES.

ANALYSIS INPUT



A SYSTEMS ORIENTATION DEMANDS INPUT FROM ALL SOURCES IN ORDER TO MAKE INFORMED DECISIONS WHICH IMPACT ON UNITS IN THE FIELD.

CMF 31

COMBAT COMMUNICATOR (OPERATOR/ MAINTAINER)	TACTICAL SIGNAL BATTALION OPERATORS	TACTICAL SIGNAL BATTALION MAINTAINERS

OUR SYSTEMATIC ANALYSIS RESULTED IN THIS CMF ARRANGEMENT AND SUGGESTED TO US THAT...

RESTRUCTURING:

- ACCOMMODATES FIELD NEED TO IMPROVE UNIT READINESS
- ENHANCES
  - SOLDIER COMPETENCE
  - CAREER PROGRESSION

A STRUCTURE THAT OPTIMIZES UNIT NEEDS, SOLDIER PROGRESSION, AND TRAINING WOULD ENHANCE OUR TOTAL FORCE READINESS.

CMF RESTRUCTURE

HAS NOT EXCEEDED THE CONGRESSIONAL AUTHORIZATION (GRADE STRUCTURE) FOR 62.5% OF ENLISTED RANKS SPREAD THROUGH GRADES E4-E9.

-THEREFORE-

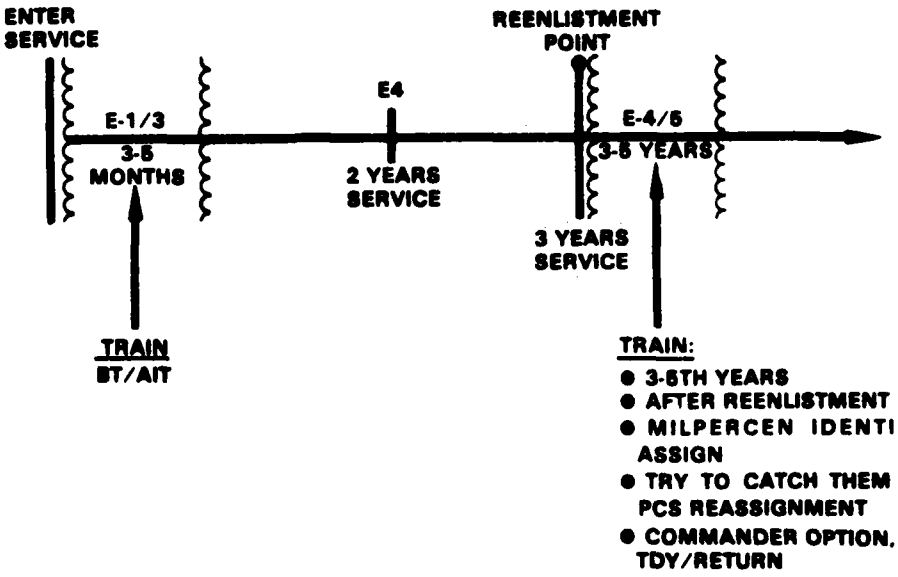
REVISED CMF STRUCTURE AUTHORIZATIONS MEET THE EPMS OBJECTIVE FORCE STRUCTURE MODEL

MILPERCEN ASSISTANCE HAS BEEN OUTSTANDING. IN WORKING THIS ISSUE, WE APPEAR TO HAVE OVERCOME A SIGNIFICANT INFLUENCING FACTOR.

HOW TO IMPLEMENT IN PHASE I

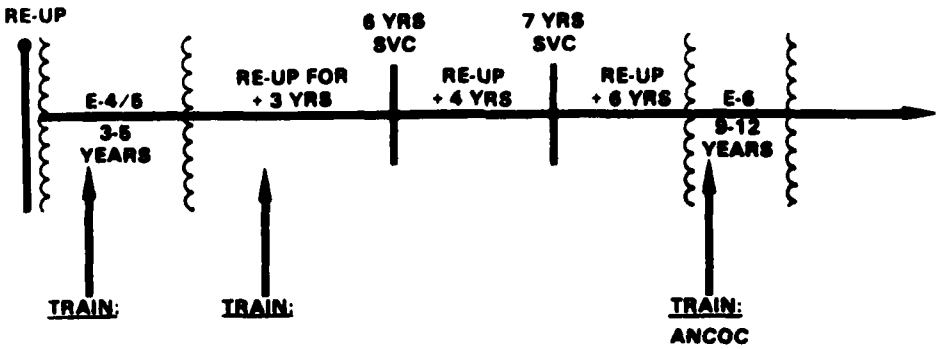
AND HOW TO TRANSITION INTO PHASE III

EPMS TRAINING AND PROMOTION WINDOWS



AFTER IET AND REENLISTMENT, THE SOLDIER CAN BE GIVEN PROGRESSIVE TECHNICAL TRAINING AT THE E4-5 LEVELS IN HIS/HER 3-5 YEARS OF SERVICE.

EPMS TRAINING AND PROMOTION WINDOWS (CONTINUED)



TRAIN:

TRAIN:

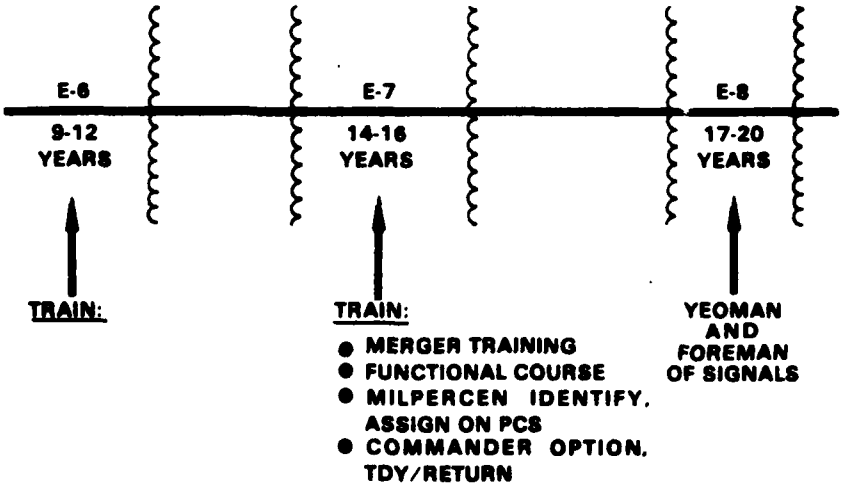
TRAIN:

ANCOC

- CENTRALIZED SELECTION PROCESS
- 50% ATTENDANCE BY SIGNAL NCO'S (CURRENT)

THE EXISTING NCOES PROGRAM GIVES US THE OPPORTUNITY TO PROVIDE TECHNICAL TRAINING AT THE E-6 LEVEL. WE ARE GOING TO REVITALIZE THIS PROGRAM.

EPMS TRAINING AND PROMOTION WINDOWS (CONTINUED)



MERGER TRAINING FOR SIGNAL NCO IS IMPERATIVE. THE NUMBER OF SKILL LEVELS AND MOS WHICH CONVERGE AT THE SENIOR LEVELS DEMANDS THIS...OTHERWISE, WE HAVE A COMPETENCY PROBLEM. IF ACCOMPLISHED, WE CAN HAVE A YEOMAN OR FOREMAN WHO IS CAPABLE OF SUPPORTING YOUR NEEDS.

STEPS TO PROFESSIONALISM

E1/3 BT/AIT APPRENTICE CANDIDATE

PROFESSIONALISM IS ENHANCED THROUGH TRAINING.

STEPS TO PROFESSIONALISM

E1/3	BT/AIT	APPRENTICE CANDIDATE
E4	• COMPLETE SOJT/OJT • JOB BOOK CERTIFICATION	APPRENTICE
E5	• SQT MOS VERIFICATION • ATTEND RESIDENT TRAINING	JOURNEYMAN

A SOLDIER FIRST, WITH PRIDE IN TECHNICAL ABILITY AND AN ASSOCIATED SENSE OF IDENTIFICATION.

STEPS TO PROFESSIONALISM

E1/3	BT/AIT	APPRENTICE CANDIDATE
E4	• COMPLETE SOJT/OJT • JOB BOOK CERTIFICATION	APPRENTICE
E5	• SQT MOS VERIFICATION • ATTEND RESIDENT TRAINING	JOURNEYMAN
E6	• PROMOTED • ATTEND TRAINING (ANCOC) • SQT MOS VERIFICATION	MASTER

AT THE E-6 LEVEL, WE WOULD HAVE A MASTER SIGNALEER.

STEPS TO PROFESSIONALISM CONTINUED

E7

- PROMOTED
- ATTEND MERGER TRAINING

} SENIOR SUPERVISOR

THE SENIOR SUPERVISOR AT E-7.

STEPS TO PROFESSIONALISM CONTINUED

E7	• PROMOTED • ATTEND MERGER TRAINING	SENIOR SUPERVISOR
E8/9	• ATTEND SMA • PROMOTED	YEOMAN/FOREMAN

ACHIEVING E-8/9 WOULD GIVE US THAT YEOMAN AND FOREMAN OF SIGNAL.

COSTING DATA
FOR
PHASE III
?

MAJORITY OF THE WORK HAS BEEN COMPLETED. FINAL COST DATA IS CONTINGENT UPON POI COMPLETION.

INITIAL MILPERCEN INPUT

- VIEWS SKILL LEVEL TRAINING AS A MUST FOR SUCCESSFUL EPMS
- AGREES TO REQUIREMENT FOR MERGER TRAINING
- ACKNOWLEDGES DIFFICULTY IN IDENTIFYING, SCHEDULING, AND TRACKING PERSONNEL REQUIRING SKILL LEVEL TRAINING
- CAN SUPPORT SKILL LEVEL TRAINING ON PCS MOVES
- CONCURS IN COMMANDER'S ROLE IN "TDY AND RETURN" TRAINING
- VIEWS PROMOTE-TRAIN VS TRAIN-PROMOTE ISSUE AS UNRESOLVED
- EMPHASIZES STATUATORY/REGULATORY RESTRICTIONS

MILPERCEN ASSISTANCE IN WORKING THE PROBLEMS HAS KEPT US ON COURSE AND BEEN MOST BENEFICIAL.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80

WE ARE PUSHING HARD TO DO THIS IN A REVITALIZED ANCOC PROGRAM FOR CMF 31.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC

WE ARE STRIVING TO OVERCOME THE SHORTFALL IN TECHNICAL/ SYSTEMS TRAINING IN THIS PROGRAM.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC
- SKILL LEVEL 2/3 TRAINING WILL BEGIN IN CY80

THE 1980 PROGRAM FOR SKILL LEVELS 2 AND 3 WILL COMPLEMENT THE ANCOC INITIATIVES.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC
- SKILL LEVEL 2/3 TRAINING WILL BEGIN IN CY80
- MILPERCEN ASSISTANCE NECESSARY—OUTSTANDING!

WE CAN'T DO IT ALONE...MILPERCEN SUPPORT HAS BEEN EXCELLENT.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC
- SKILL LEVEL 2/3 TRAINING WILL BEGIN IN CY80
- MILPERCEN ASSISTANCE NECESSARY—OUTSTANDING!
- WE CAN RESOURCE IT NOW.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC
- SKILL LEVEL 2/3 TRAINING WILL BEGIN IN CY80
- MILPERCEN ASSISTANCE NECESSARY— OUTSTANDING
- WE CAN RESOURCE IT NOW.

PROBLEMS TO SOLVE

- MANAGEMENT OF THE INPUT TO SKILL LEVEL 2/3 TRAINING

PROBLEMS REMAIN TO BE SOLVED.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC
- SKILL LEVEL 2/3 TRAINING WILL BEGIN IN CY80
- MILPERCEN ASSISTANCE NECESSARY—OUTSTANDING!
- WE CAN RESOURCE IT NOW.

PROBLEMS TO SOLVE

- MANAGEMENT OF THE INPUT TO SKILL LEVEL 2/3 TRAINING
- GETTING CURRENT E-7s BACK FOR CAPPER TRAINING

WE CAN WORK THE FORT GORDON PROBLEMS BUT WE STILL NEED THAT ARMY COMMITMENT IF WE'RE TO SUCCEED.

CONCLUSIONS
PHASE I & II

- SIGNAL NCO TRAINING WILL BEGIN THIS JAN 80
- WE WILL BEGIN BY ADDING CAPPER TRAINING TO ANCOC
- SKILL LEVEL 2/3 TRAINING WILL BEGIN IN CY80
- MILPERCEN ASSISTANCE NECESSARY—OUTSTANDING!
- WE CAN RESOURCE IT NOW.

PROBLEMS TO SOLVE

- MANAGEMENT OF THE INPUT TO SKILL LEVEL 2/3 TRAINING
- GETTING CURRENT E-7s BACK FOR CAPPER TRAINING
- GETTING CMDRS IN THE FIELD TO SUPPORT THE PROGRAM.

FIELD SUPPORT FOR THE TRAINING INITIATIVES IS A MUST.

CONCLUSIONS
PHASE III

- WE NEED CMF RESTRUCTURING

WE BELIEVE THAT THE TOTAL SIGNAL CORPS MISSION COULD BE ENHANCED BY THIS ACTION.

CONCLUSIONS
PHASE III

- WE NEED CMF RESTRUCTURING
- WE HAVE GENERAL AGREEMENT ON HOW TO DO IT
  - MILPERCEN
  - ARMY COMMUNICATIONS COMMAND
  - TACTICAL UNITS

THE SIGNAL CORPS COMMUNITY AND MILPERCEN HAVE GENERALLY AGREED ON THE ISSUES AND HOW TO WORK FOR SOLUTIONS.

CONCLUSIONS
PHASE III

- WE NEED CMF RESTRUCTURING
- WE HAVE GENERAL AGREEMENT ON HOW TO DO IT
  - MILPERCEN
  - ARMY COMMUNICATIONS COMMAND
  - TACTICAL UNITS
- WE CAN COME CLOSE TO RESOURCING THE PROGRAM WITH TRADE OFF'S AND COMPROMISES

THIS WILL REQUIRE CLOSE ATTENTION AND COORDINATION.

CONCLUSIONS
PHASE III

- WE NEED CMF RESTRUCTURING
- WE HAVE GENERAL AGREEMENT ON HOW TO DO IT
  - MILPERCEN
  - ARMY COMMUNICATIONS COMMAND
  - TACTICAL UNITS
- WE CAN COME CLOSE TO RESOURCING THE PROGRAM WITH TRADE OFF'S AND COMPROMISES

PROBLEMS TO SOLVE

- TIMING/PHASING
  - MILPERCEN
  - SCHOOL PRODUCTS - SQT's, SM's, COURSE DESIGN, ETC.
  - RECRUITING COMMAND
  - DARCOM
  - UNITS

FOR SUCCESSFUL IMPLEMENTATION AND TRANSITION, MACOM COORDINATION MUST BE DONE IN A TIMELY AND CORRECT MANNER.

CONCLUSIONS
PHASE III

- WE NEED CMF RESTRUCTURING
- WE HAVE GENERAL AGREEMENT ON HOW TO DO IT
  - MILPERCEN
  - ARMY COMMUNICATIONS COMMAND
  - TACTICAL UNITS
- WE CAN COME CLOSE TO RESOURCING THE PROGRAM WITH TRADE OFF'S AND COMPROMISES

PROBLEMS TO SOLVE

- TIMING/PHASING
  - MILPERCEN
  - SCHOOL PRODUCTS - SQT's, SM's, COURSE DESIGN, ETC.
  - RECRUITING COMMAND
  - DARCOM
  - UNITS
- GETTING THE BEST COMPROMISE BETWEEN OUR GOAL AND THE RESOURCES WE CAN GET

TOWARD THIS END, THE BEST COMPROMISES MUST BE ACHIEVED.

A VERY STRONG FINAL RECOMMENDATION

- TRADOC HIGHEST PRIORITY ACTION FROM THIS CONFERENCE SHOULD BE TO PUSH FOR APPROVAL AND IMPLEMENTATION OF AR 351-1 (SCHOOLS MILITARY TRAINING AND EDUCATION) DRAFT 10 MAY 1979

- AR 351-1 AS WRITTEN IN DRAFT WILL GIVE US THE BASIS AND CLOUT TO CLOSE THE GAP.

THIS DOCUMENT REALLY WORKS THE TRAINERS PROBLEMS...
APPROVAL AND IMPLEMENTATION SHOULD HAVE THE HIGHEST PRIORITY.

BRANCH TRAINING TEAMS

1. The objective of the Branch Training Team initiative is to establish and maintain a meaningful, productive dialogue between the TRADOC schools and proponent units (battalion and below) in the field. The Branch Training Teams are but a part of an information/feedback system which must be established to insure that the TRADOC knows and is meeting the training needs of the Army in the field.

2. Implicit in the Branch Training Team concept is an expanded role for the school Director of Evaluation. The expanded mission includes the following:

a. Informing the field of the capabilities and utility of current school training/training developments products.

b. Systematically collecting data concerning proponent units in the field with particular emphasis on problems relating to collective training and individual training conducted in those units.

c. Acting as the single point of contact within the school for field feedback, to include the dissemination of information and the monitoring of follow-up action.

d. Analyzing all data and information received and collected in order to: (1) Determine the performance effectiveness, efficiency and practicality of fielded proponent systems, TD products, concepts, organization and doctrine and (2) Identify performance deficiencies, training problems and force-wide branch related problems.

e. Providing the results of data analysis to the appropriate elements within the school in order to influence the TD/CD process and referring non-school proponent problems to the appropriate school/integrating center/ MACOM.

f. Assisting the commandant in preparing periodic reports to the CG TRADOC on the status of training and actions to assist in resolving training problems in battalions for which the school is proponent.

3. In order to assist the DOE in executing the above missions, with emphasis on 2a and b, Branch Training Teams are to be organized. The DOE is responsible for the organization, management and training of the team which should be tailored to meet projected needs and be composed of DOE, DTD, DCD and DOT representatives, as required.

a. The team chief will develop and coordinate visits to branch related battalion and smaller sized units. The purpose of these visits is to:

(1) Brief and demonstrate current school activities and TD products.

(2) Provide training support materials.

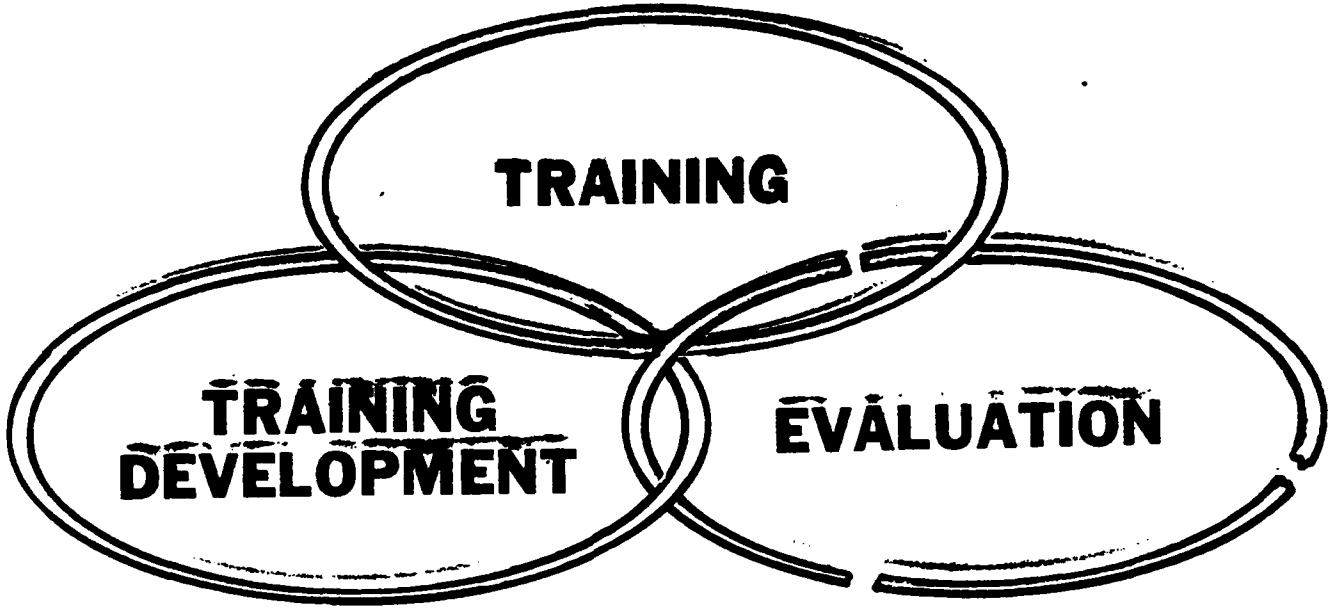
(3) Provide assistance or arrange for follow-on assistance in resolving identified branch related problems.

(4) Gather data relative to the utility and usage of the school's TD products available to the units.

(5) Gather data concerning the performance effectiveness, efficiency and practicality of fielded proponent systems, concepts, organization and doctrine.

(6) Gather data concerning problems relating to training and the training environment.

b. The training team will assist the DOE, as required, in the development of survey instruments, the collection of complementary data, the analysis of data, the conduct of performance discrepancy analysis and other tasks necessary to accomplish the expanded DOE mission.


TRAINING
TRAINING DEVELOPMENT
EVALUATION

DIRECTORATE OF EVALUATION
ROLES/MISSIONS (SCHOOL STAFFING GUIDE)

1. PERFORM LIFE-CYCLE ASSESSMENT OF PROPONENT MATERIEL AND TRAINING SYSTEMS.
2. COLLECT AND ANALYZE INDIVIDUAL AND UNIT PERFORMANCE DATA.
3. CONDUCT INTERNAL AND EXTERNAL EVALUATIONS AS SPECIFIED IN THE ISD MODEL.
4. DEVELOP, CONDUCT AND ANALYZE IN-COURSE AND POST- GRADUATE SURVEYS.
5. ANALYZE EFFECTIVENESS OF RESIDENT AND NON-RESIDENT INSTRUCTION.
6. DEVELOP STUDIES AND SYSTEMS AND CURRICULA EFFECTIVENESS.
7. IDENTIFY AND DEFINE TRAINING, TRAINING DEVELOPMENT AND COMBAT DEVELOPMENT PROBLEMS.
8. RECOMMEND CHANGES TO TRAINING, TRAINING SUPPORT AND MATERIEL SYSTEMS.

EVALUATION SHORTCOMINGS

+ LACK OF FEEDBACK OF FIELD REQUIREMENTS INTO TRAINING DEVELOPMENT (TD) PROCESS (AND PARTICULARLY COLLECTIVE REQUIREMENTS).

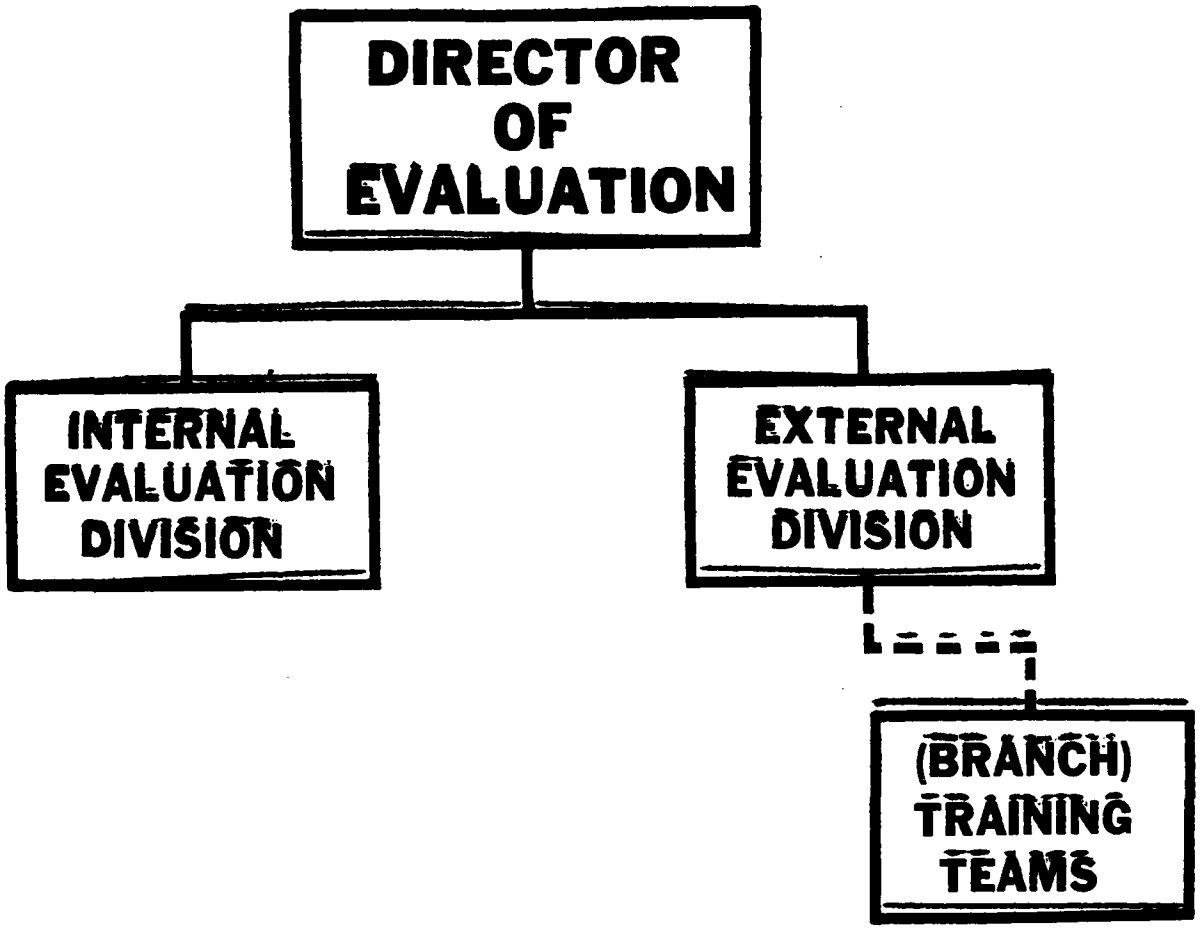
+ INADEQUATE DATA ON THE USE – OR LACK OF USE – OF A PARTICULAR SCHOOL'S TRAINING SUPPORT MATERIALS (TEC, DEVICES, SIMULATORS, ETC.).

+ FAILURE TO INSURE THAT JOB AND TASK ANALYSIS ARE DOCUMENTED AND SOUND.

+ INADEQUATE USE OF AVAILABLE MATERIALS (SQT TASK ANALYSIS) TO INFLUENCE TD PROCESS.

FEEDBACK SOURCES

+ ARMY OCCUPATIONAL SURVEY PROGRAM REPORTS
+ ARMY RESEARCH INSTITUTE REPORTS
+ DAIG, TRADOC IG, FORSCOM IG REPORTS
+ TRADOC LIAISON OFFICER REPORTS
+ MISSILE AND MUNITIONS EVALUATION (MAME) REPORTS
+ SKILL QUALIFICATION TEST (SQT) RESULTS
+ FORSCOM TRAINING ASSISTANCE AND ASSESSMENT TEAM VISITS
+ FORSCOM LOGISTICS ASSESSMENT AND ASSISTANCE TEAM VISITS
+ DARCOM SYSTEM ASSESSMENT PROGRAM RESULTS


DIRECTOR OF EVALUATION
INTERNAL EVALUATION DIVISION
EXTERNAL EVALUATION DIVISION
(BRANCH) TRAINING TEAMS

(BRANCH) TRAINING TEAM

+ TRAINING TEAM BRANCH IN DEV DEVELOPS AND COORDINATES EXTERNAL VISITS.

+ 3 TO 5 MAN TEAM.

+ TEAM COMPOSITION TAILORED TO PROJECTED NEEDS:
  - DOT REPRESENTATIVES.
  - DTD REPRESENTATIVES.
  - DCD REPRESENTATIVES.
  - TRAINING TEAM PERSONNEL.

+ TRAINING TEAM SHOULD FOCUS ON BATTALION LEVEL AND BELOW.

+ TRAINING TEAMS WILL FOCUS ON BRANCH RELATED BATTALION.

  FORT KNOX - ARMOR BN

  FORT GORDON - SIGNAL BN

  FORT SILL - ARTY BN

+ PROBLEMS DETECTED IN BRANCH RELATED BATTALION FOR SPECIFIC MOS's WILL BE REFERRED TO MOS PROPONENTS FOR RESOLUTION.

MISSIONS OF *(BRANCH)* TRAINING TEAM

+ TO DEMONSTRATE TO THE FIELD THE CAPABILITIES AND UTILITY OF THE CURRENT ACTIVITIES (IET, NCOES, OFFICER TRAINING, TRAINING SUPPORT MATERIALS) OF THE SCHOOL.
+ TO PROVIDE TRAINING SUPPORT MATERIALS THAT ARE NOT READILY AVAILABLE.
+ TO COORDINATE FOR SPECIAL TEAM VISITS (RANGE DEVELOPERS, WEAPONS EXPERTS, ETC.) TO ASSIST IN RESOLVING BRANCH RELATED PROBLEMS.
+ TO REFER TO INTEGRATING CENTERS/OTHER SCHOOLS PROBLEMS DETECTED IN AREAS (SUCH AS MOS's) FOR WHICH THEY ARE PROPONENT.
+ TO IDENTIFY (BRANCH) PROBLEMS THAT ARE FORCE-WIDE AND CANNOT BE RESOLVED QUICKLY.
+ TO INFLUENCE THE TD PROCESS TO ADDRESS THESE PROBLEMS.
+ TO ANALYZE COMPLEMENTARY DATA (SQT TASK ANALYSIS, ETC.), DETERMINE REASONS FOR DEFICIENCIES THROUGH FIELD VISITS, AND PROVIDE SUCH DATA FOR USE IN THE TD PROCESS.

BRANCH TRAINING TEAM SCHEDULE
(BY SCHOOL)

AIR DEFENSE SCHOOL

Ft Bragg	Dec 79
Ft Lewis	Jan 80
Ft Bliss	Feb 80
Ft Hood	Mar 80

ARMOR SCHOOL

Ft Knox	Jan 80
Ft Polk	Feb 80
Ft Campbell	Feb 80
MS (RC)	Feb 80
Ft Hood	Mar 80
Ft Stewart	Mar 80
NY, MD, NJ, DC (RC)	Mar 80
Ft Riley	Apr 80
Ft Bliss	Apr 80
Ft Carson	Apr 80
PA, OH, MI, IN (RC)	May 80

AVIATION SCHOOL

Ft Campbell	Feb 80
Ft Hood	Mar 80

ENGINEER SCHOOL

Ft Hood	Mar 80
Ft Bragg	Apr 80

FIELD ARTILLERY SCHOOL

Ft Stewart	Dec 79
Ft Lewis	Jan 80
Ft Ord	Jan 80
Ft Polk	Feb 80
Panama	Feb 80
Ft Hood	Mar 80
Ft Carson	Apr 80
Ft Richardson	Apr 80

INFANTRY SCHOOL

Ft Ord	Jan 80
Ft Polk	Feb 80
Ft Hood	Mar 80

INSTITUTE OF MILITARY ASSISTANCE

Ft Bragg	Mar-Apr 80

INTELLIGENCE SCHOOL - FT HUACHUCA

Ft Carson	Jan 80
Ft Ord	Jan 80

INTELLIGENCE SCHOOL - FT DEVENS

Ft Hood	Mar 80
Ft Bragg	TBD
Ft Campbell	TBD
Ft Carson	TBD

MILITARY POLICE SCHOOL

Ft Campbell	Jan 80
Ft Bragg	Feb 80
Ft Ord	Mar 80
Ft Hood	Apr 80
USAREUR	May 80

MISSILE & MUNITIONS SCHOOL

Ft Lewis	Jan 80
Ft Hood	Mar 80

ORDNANCE SCHOOL

Ft Stewart	Dec 79
Ft Lewis	Jan 80
Ft Ord	Jan 80
Ft Polk	Feb 80

Incl

QUARTERMASTER SCHOOL

Ft Lee	Feb 80
Ft Hood	Mar 80

SIGNAL SCHOOL

Ft Stewart	Dec 79
Ft Polk	Feb 80
Panama	Feb 80
Ft Sill	Mar 80
Ft Hood	Mar 80

TRANSPORTATION SCHOOL

Ft Bragg	Mar 80
Ft Eustis	TBD

ADMINISTRATION CENTER

Ft Ord	Feb 80
Ft Lewis	Mar 80

Ft Richardson Apr 80 Ft Polk Feb 80

BRANCH TRAINING TEAM SCHEDULE
(FORSCOM UMBRELLA CONCEPT)

Ft Stewart (10-14 Dec 79)
Armor School (Mar 80)
Field Artillery School
Ordnance School
Signal School

Ft Lewis (7-11 Jan 80)
Air Defense School
Field Artillery School
Intelligence School - Ft Huachuca
Missile & Munitions School
Ordnance School
ADMINCEN (Mar 80)

Ft Ord (14-18 Jan 80)
Field Artillery School
Infantry School
Intelligence School - Ft Huachuca
Military Police School (Mar 80)
Ordnance School
ADMINCEN (Feb 80)

Ft Polk (4-8 Feb 80)
Armor School
Field Artillery School
Infantry School
Ordnance School
Signal School

Panama (25-29 Feb 80)
Field Artillery School
Signal School

Ft Sill (10-14 Mar 80)
Signal School

Ft Hood (17-28 Mar 80)
Air Defense School
Armor School
Aviation School
Engineer School
Field Artillery School
Intelligence - Ft Devens
Military Police School (Partnership Apr 80)
Missile & Munitions School
Quartermaster School
Signal School
Infantry School

Ft Richardson (28 Apr-2 May 80)
Field Artillery School

Ft Carson
Armor School (Partnership Apr 80)
Field Artillery School (Apr 80)
Intelligence School - Ft Devens (TBD)
Intelligence School - Ft Huachuca
(Partnership)

Ft Bragg
Air Defense School (Dec 79)
Engineer School (Partnership Apr 80)
Institute for Military Assistance
(Mar-Apr 80)
Intelligence School - Ft Devens (TBD)
Military Police School (Feb 80)
Transportation School

Ft Bliss
Air Defense School (Feb 80)
Armor School (Apr 80)

Ft Campbell
Armor School (Feb 80)
Aviation School (Partnership Feb 80)
Intelligence School - Ft Devens (TBD)
Military Police School (Jan 80)

Ft Riley
Armor School (Apr 80)

Armor School will also visit Reserve
Components in the following states:
MS, NY, MD, NJ, WDC, PA, OH, MI, IN.

- TRADOC GLOSSARY OF INDIVIDUAL/COLLECTIVE TRAINING TERMS
- TRADOC AOSP-SUPPORT SYSTEM

Dr. Alexander A. Longo, Ed. D.
Occupational Research and Analysis
Training Developments Institute
15 January 1980

- o TRADOC Glossary of Individual/Collective Training Terms (TR Cir 350-3)

- o TRADOC AOSP-Support System (TR Suppl to AR 611-3)

Introduction:

The Occupational Research Analysis Division, TDI, has responsibility for a wide range of applied research in support of the TRADOC training Developments community. Two applied research projects recently completed are listed on the first slide (Slide 1). To place these in some perspective for you, this slide also shows the relative size of these two projects in terms of effort to complete their documentation stage. The implementation of the documentation (both projects) of course is anticipated to have long range impact.

For the sake of organization/clarity, the presentation topics will be addressed as follows (slide 2). In short we will be viewing each project from 3 aspects: its past, present status and future plans.

TRADOC Glossary: (TR Cir 350-3)

Regarding the background of the TRADOC Glossary, (Slide 3) the need for a single source of definition has long been desired by TRADOC Staff offices and schools. Such a document would provide a handy single source for reference and promote standardization of term/definition usage. Initial efforts aimed to issue a simple compilation of available terms/definition. However, after repeated coordination of draft versions it became apparent that agreement on precise definitions among all interested offices at all levels was not so easy to achieve. Further, other recurrent problems included addition/deletion of terms, format and style of document. Resonable consensus on the content/form of this document was finally attained after 7 coordination reviews.

The TRADOC Glossary is now in print. Copies will be made available to you at the close of the presentation. It will suffice to present to you the basic features of the document (Slide 4) which include a summary of its "vital statistics" (Slide 5), samples of the Glossary of terms from Chapter 2 (Slide 6), and samples of the Glossary of Abbreviation/Brevity Codes from Chapter 3 (Slide 7).

In closing, our future objective (Slide 8) for the TRADOC Glossary of Individual/Collective Training and Development terms is to convert it to Supplements to the Army Dictionary of terms (AR 310-25) and Army Dictionary of Abbreviations and Brevity Codes (AR 310-50).

In order to accomplish this and insure quality control, two feedback mechanisms have been established and are spelled out within Chapter 1 of the Glossary (Slide 8 again). These are (a) Quick Feedback Form: to be completed by any user on an "ad hoc" basis anytime up to 9 months after publication date; and, (b) Formal Coordination: to be performed with all principal users 6 months after publication date. Last, this glossary has been coordinated with the DA POC for Army Dictionary who was most receptive and complimentary in this effort.

TRADOC AOSP-Support System: (TR Suppl to AR 611-3)

The second presentation I have, the TRADOC AOSP-Support System, addresses an area of specific interest to you as Chiefs of Analysis at the TRADOC service schools. With respect to the background of this project (Slide 9) it was noted that while MILPERCEN (AOSP) conducts occupational surveys and the schools in turn, need this service, HQ TRADOC has played only an occasional and tentative role in the coordination process. Further, it is apparent that the schools' AOSP-Support efforts lack standardization in approach and implementation. More specifically, clarification of HQ TRADOC/school AOSP-POC and respective functions is necessary. This is the purpose of TR Suppl to AR 611-3.

The status/content of this supplement is shown on our next slide (Slide 10). The supplement has been completed; copies will be made available to you at the end of this presentation. This slide also shows the basic topics of the document which will be discussed next.

The purpose of the TRADOC AOSP-Support System is shown on our next slide (Slide 11).

The scope of this AOSP-Support System includes the following (Slide 12). It should be added that officer AOSP survey requirements are controlled by a separate circular (TR Cir 350-2) which is under TDI-OTSD proponency (LTC Healy, Chief). Also, this supplement is restricted to TRADOC administrative procedures in support of AOSP which is not to be confused with AOSP questionnaire administration and field data collection which are amply spelled out in the Basic AR 611-3.

The basic responsibilities spelled out by this supplement include those shown on our next slide (Slide 13).

The AOSP-POC network/functions are listed on the next slide (Slide 14). While this illustrates a linear relationship among the DA TRADOC, School primary and secondary POC, there is no intention in cancelling the direct communication already established between the schools and MILPERCEN pertaining to the

operational aspects of the TRADOC AOSP-Support System. Rather, the objective is to insure that all schools are cognizant of the AOSP surveys, establish a network of AOSP-POC and act in concert to meet special milestones (set forth in this supplement) established by MILPERCEN annually. In short it is perceived that the current school AOSP efforts will be standardized for the sake of efficiency and, of course, effectiveness.

In order to clrify the AOSP-POC network and functions set forth, a TRADOC AOSP-support scenario was developed (Slide 15) within the supplement. This complements the AOSP-POC network description. Further, explicit samples of AOSP-Support procedures/correspondence which were trial implemented during the previous year (1979) are added to the supplement as Appendices (Slide 16). These are designed to supplement the scenario. Last, a generalized milestone chart of the basic elements of the AOSP-support system (main processes/coordination/products) is provided (Slide 17) within the document. It complements both the scenario and appendices described above.

In closing, plans relating to further actions on the TRADOC AOSP-Support System include: (a) Development of 3 self-training modules on AOSP (Orientation; Item Submissions; use of CODAP); and, (b) implementation of TR Suppl to AR 611-3 with the purpose of achieving maximum standardization in AOSP-Support procedures within TRADOC.

- TRADOC GLOSSARY OF INDIVIDUAL/COLLECTIVE TNG TERMS (TC 350-3)

- TRADOC AOSP-SUPPORT SYSTEM (TR SUPPL TO AR 611-3)

ORA
RESEARCH
SPECTRUM

EXAMPLES

SHORT - AOSP SUPPORT

MID - GLOSSARY

LONG -(CONTRACTUAL, ETC)

(SLIDE 1)

- FORMAT
  - BACKGROUND (PAST)
  - STATUS (PRES)
  - GOAL (FUT)

SLIDE 2

TRADOC GLOSSARY (TC 350-2)

(BACKGROUND)

- o NEED FOR SINGLE SOURCE OF DEF
- o QUICK/DIRTY EFFORT
- o TOUR DE FORCE
- o OBSTACLES/DECISIONS:
  - o TRG PROG EVOLUTION
  - o 7 DRAFT COORD: ATSC/DCST/SCHOOLS
  - o FORMAT
  - o STYLE
  - o CROSS REFERENCING/INTEGRATION

SLIDE 3

TRADOC GLOSSARY (TC 350-3)

(STATUS)

- o TC 350-3: COMPLETED
- o VITAL STATISTICS
- o CH 2: GLOSSARY OF TERMS (SAMPLE)
- o CH 3: GLOSSARY OF ABBREV (SAMPLE)

SLIDE 4

TRADOC GLOSSARY (TC 350-3)

- VITAL STATISTICS
  - 1 APPEND
  - 3 CHAP'S
  - 113 PGS
  - 572 TERMS
  - 402 ABBREV

SLIDE 5

TRADOC GLOSSARY (TC 350-3)

CHAPTER 2 (SAMPLES)

GLOSSARY OF TERMS: INDIV/COLLECT TRAINING AND DEVELOPMENT

A

apprenticeship---state of learning by practical experience under skilled workers.

Army standard score---See AR 310-25

activity step---One simple operation or movement that comprises part of a task.....See also element.

SLIDE 6

TRADOC GLOSSARY (TC 350-3)

CHAPTER 3 (SAMPLES)

GLOSSARY OF ABBREV/BREVITY CODES: INDIV/COLLECTIVE TRAINING AND DEVELOPMENT

AA---------active Army

AIMS-------Automated Instructional Management System

AOSP-------Army Occupational Survey Program

AIT--------advanced individual training

SLIDE 7

TRADOC GLOSSARY (TC 350-3)

(GOAL)

- o TR SUPPL TO AR 310-25
- o TR SUPPL TO AR 310-50

- o FEEDBACK:
  - o FORMAL COORD
  - o QUICK FEEDBACK FORM

SLIDE 8

TRADOC AOSP SUPPORT SYSTEM (TR SUPPL: AR 611-3)

(BACKGROUND)

- o MILPERCEN (AOSP) CONDUCTS OCCUP SURVEYS
- o SCHOOLS NEED AOSP SERVICES
- o HQ TRADOC MUST COORD/CONSOL SCHOOL NEEDS
- o PROBLEMS: (HQ TRADOC/SCHOOLS)
  - o POC UNIDENTIFIED
  - o POC FUNCTIONS UNDEFINED
  - o TRADOC AOSP-SUPPORT SYSTEM VAGUE
- o BASIC REG: AR 611-3
- o TR SUPPL - CH 7 (ADDED)

SLIDE 9

TRADOC AOSP SUPPORT SYSTEM (TR SUPPL: AR 611-3)

(STATUS)

- o TR SUPPL TO AR 611-3: COMPLETED
- o PURPOSE
- o SCOPE
- o RESPONSIBILITIES
- o AOSP-POC NETWORK
- o AOSP-POC FUNCTIONS
- o AOSP-POC SUPPORT SCENARIO
- o APPENDICES
- o GENERALIZED MILESTONE CHART

SLIDE 10

TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

- PURPOSE:

  THIS CHAPTER PROVIDES ADDITIONAL GUIDANCE ON THE SCOPE, RESPONSIBILITIES AND ADMINISTRATIVE PROCEDURES WITHIN TRADOC IN SUPPORT OF AOSP QUESTIONNAIRE DEVELOPMENT.

SLIDE 11

TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

0 SCOPE:

- o MOS PROPONENT SCHOOLS
- o ENLISTED AOSP SURVEY REQ
- o TRADOC ADMIN PROCED

SLIDE 12

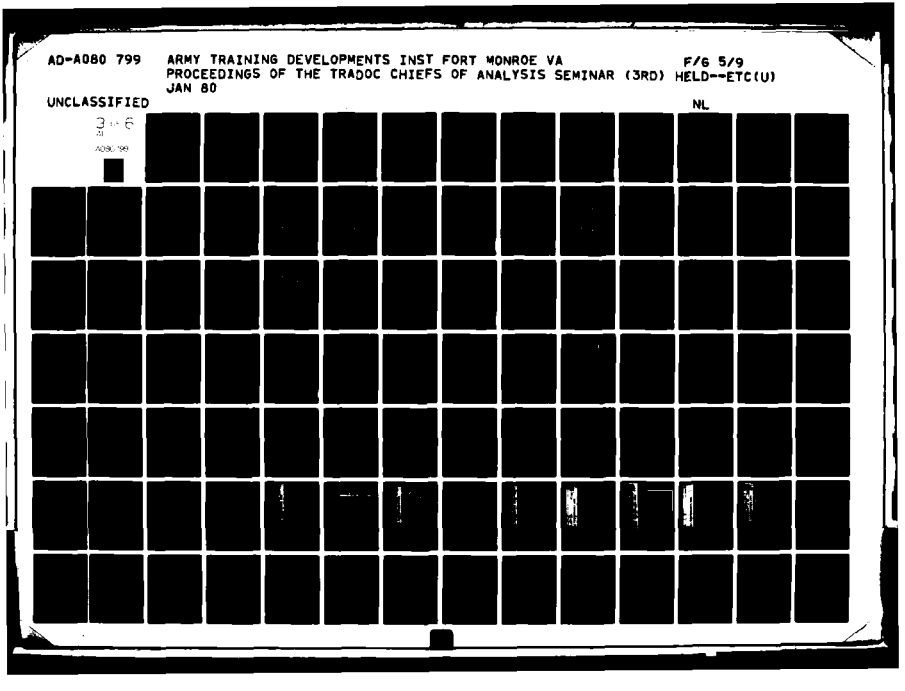
TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

- o RESPONSIBILITIES:
  - o HQ TRADOC: PROVIDE POC TO MANAGE/COORDINATE AOSP-SUPPORT REQUIREMENTS WITHIN TRADOC.
  - o SCHOOLS: PROVIDE PRIMARY/SECONDARY AOSP-POC FOR ALL SCHOOL AOSP REQUIREMENTS

SLIDE 13

AD-A080 799 ARMY TRAINING DEVELOPMENTS INST FORT MONROE VA F/6 5/9
PROCEEDINGS OF THE TRADOC CHIEFS OF ANALYSIS SEMINAR (3RD) HELD--ETC(U)
JAN 80

UNCLASSIFIED NL



TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

- AOSP-POC NETWORK/FUNCTIONS

o (MILPERCEN)	(PROPONENT)
o HQ TRADOC	COORD/CONSC
o SCHOOL PRIMARY	ADMINISTRAT
o SCHOOL SECONDARY	DEVELOPMENT/

SLIDE 14

TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

- o TRADOC AOSP-SUPPORT SCENARIO

  PRESENTS STEP-BY-STEP SEQUENCE OF EVENTS GENERATING THE KEY ELEMENTS REQUIRED FOR CONSTRUCTION OF AOSP SURVEYS (BOTH STANDARD/TNG EMPHASIS):

  - o SELECTION OF AOSP-POC
  - o SELECTION OF MOS FOR AOSP SURVEY
  - o PRIORITIZATION OF MOS FOR AOSP SURVEY
  - o DEVELOPMENT OF MOS ITEM SUBMISSIONS

SLIDE 15

TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

o APPENDICES

(SAMPLE OUTPUT)

SLIDE 16

TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

0 GENERALIZED MILESTONE CHART

SLIDE 17

TRADOC AOSP-SUPPORT SYS (TR SUPPL: AR 611-3)

(GOAL)

1. TRADOC AOSP-SUPPORT SYSTEM MODULES (3)

2. STANDARDIZED ADMINISTRATIVE PROCEDURES WITHIN TRADOC IN SUPPORT OF AOSP QUESTIONNAIRE DEVELOPMENT

SLIDE 18

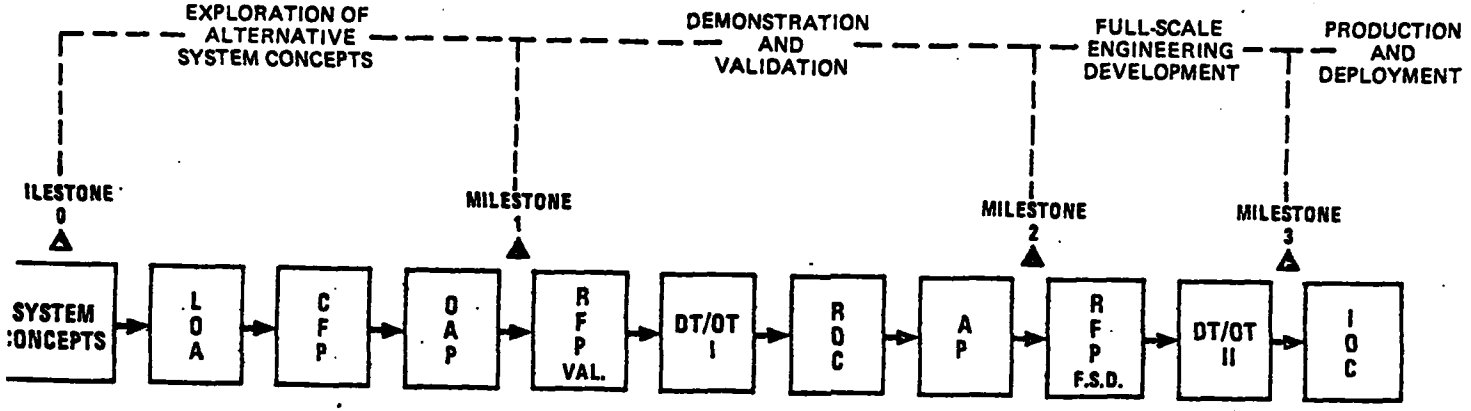
LIFE CYCLE SYSTEM MANAGEMENT MODEL

(LCSMM)

A SEQUENCE OF SPECIFIED PHASES OF PROGRAM ACTIVITY AND DECISION EVENTS DIRECTED TO THE ACHIEVEMENT OF ESTABLISHED PROGRAM OBJECTIVES.

LCSMM IS DIVIDED INTO FOUR MAJOR SEGMENTS CORRESPONDING TO THE FOUR ACQUISITION PHASES:

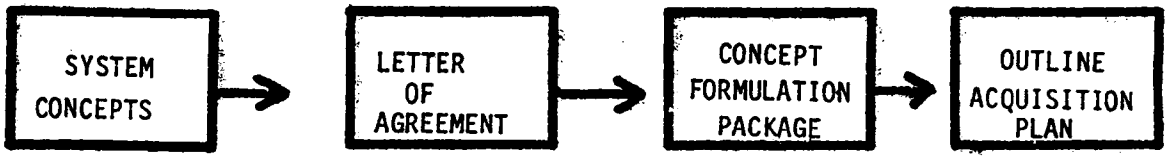
* EXPLORATION OF ALTERNATIVE SYSTEM CONCEPT PHASE
* DEMONSTRATION AND VALIDATION PHASE
* FULL-SCALE ENGINEERING DEVELOPMENT PHASE
* PRODUCTION AND DEPLOYMENT PHASE



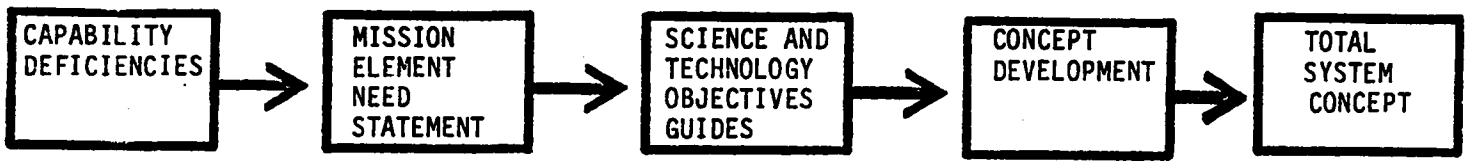
MILESTONES:

0 = PROGRAM INITIATION DECISION
1 = DEMONSTRATION AND VALIDATION DECISION
2 = FULL-SCALE ENGINEERING DEVELOPMENT DECISION
3 = PRODUCTION AND DEPLOYMENT DECISION

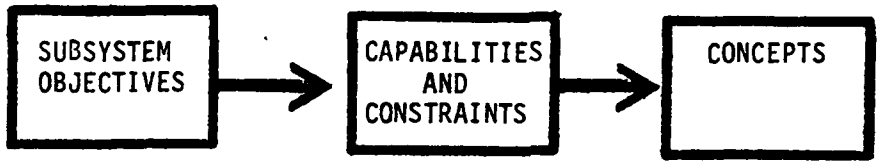
EXPLORATION OF ALTERNATIVE SYSTEM CONCEPTS



SYSTEM CONCEPTS



CONCEPT
DEVELOPMENT



SUBSYSTEMS

* PERSONNEL
* TRAINING
* LOGISTICS
* ORGANIZATIONAL
* DOCTRINAL
* MATERIEL

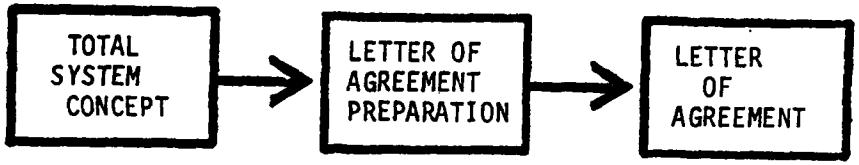
LETTER OF AGREEMENT (LOA)

LOA IS A JOINTLY PREPARED COMBAT DEVELOPER (TRADOC), MATERIAL DEVELOPER (DARCOM) DOCUMENT THAT:

* PROVIDES A RECORD OF THE AGREEMENT BETWEEN THESE DEVELOPERS TO PROCEED WITH DEVELOPMENT.

* STATES THE ISSUES TO BE RESOLVED THROUGH STUDY AND INVESTIGATION.

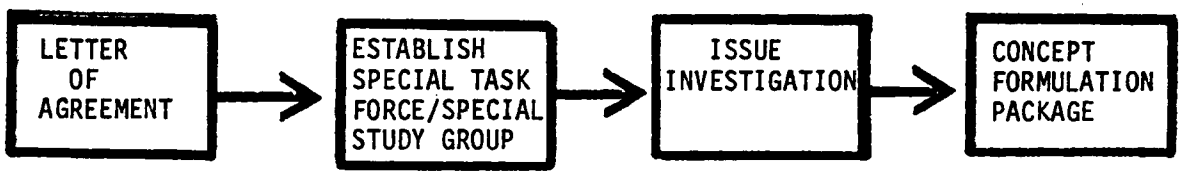
LETTER
OF
AGREEMENT



CONCEPT FORMULATION PACKAGE (CFP)

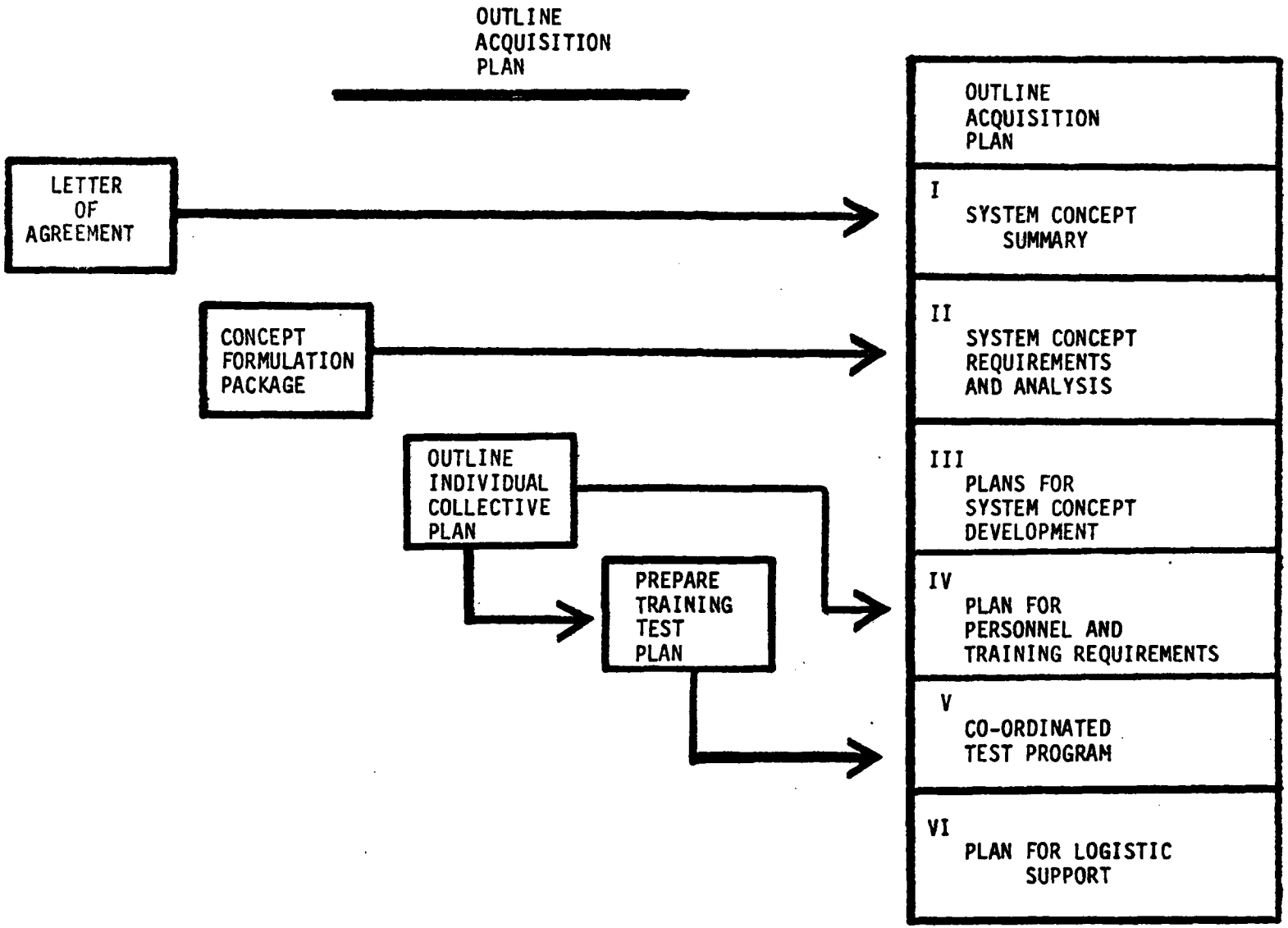
CFP DEVELOPMENT IS A PERIOD OF STUDY AND ANALYSIS TO MORE FULLY DETERMINE THE SYSTEM POTENTIAL AND TO IDENTIFY APPROACHES TO SYSTEM DEVELOPMENT MOST LIKELY TO OPTIMIZE THIS POTENTIAL.

CONCEPT FORMULATION PACKAGE

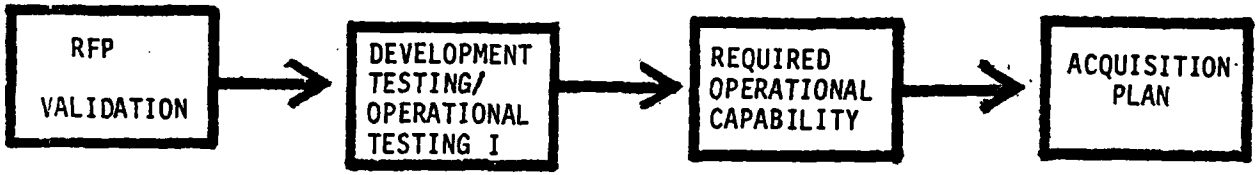


OUTLINE ACQUISITION PLAN (OAP)

OAP DEVELOPMENT IS THE PLANNING ACTIVITY FOLLOWING SELECTION OF THE BEST TECHNICAL APPROACH (BTA), CONTAINED WITHIN THE CFP, TO BE PURSUED IN VALIDATION DEVELOPMENT.


OUTLINE
ACQUISITION
PLAN
LETTER
OF
AGREEMENT
CONCEPT
FORMULATION
PACKAGE
OUTLINE
INDIVIDUAL
COLLECTIVE
PLAN
PREPARE
TRAINING
TEST
PLAN
OUTLINE
ACQUISITION
PLAN
I
SYSTEM CONCEPT
SUMMARY
II
SYSTEM CONCEPT
REQUIREMENTS
AND ANALYSIS
III
PLANS FOR
SYSTEM CONCEPT
DEVELOPMENT
IV
PLAN FOR
PERSONNEL AND
TRAINING REQUIREMENTS
V
CO-ORDINATED
TEST PROGRAM
VI
PLAN FOR LOGISTIC
SUPPORT

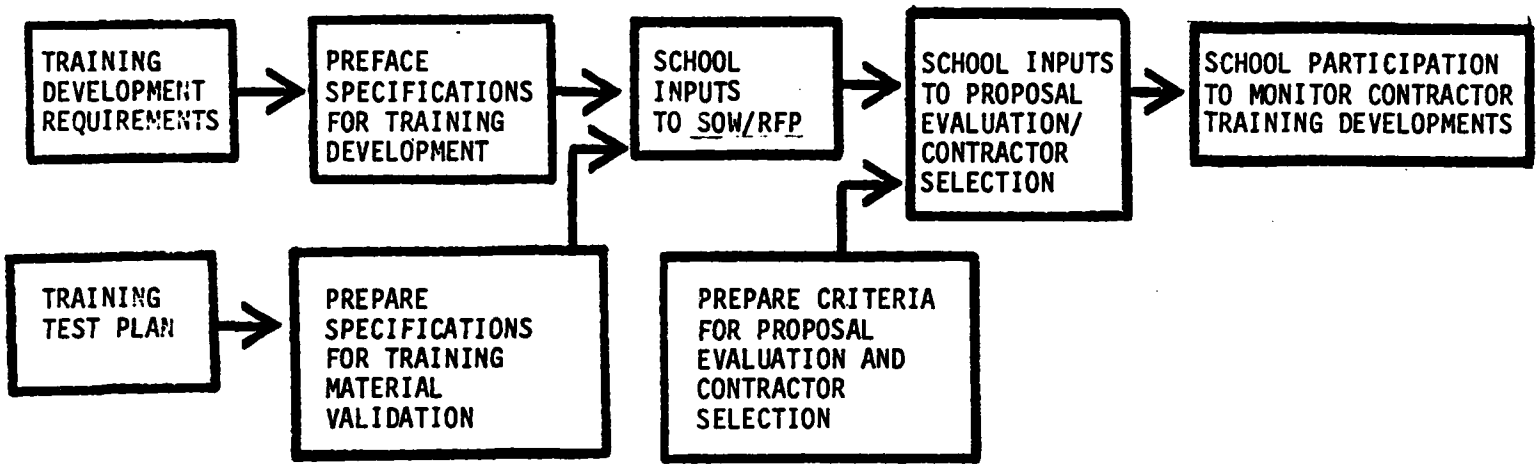
DEMONSTRATION AND VALIDATION



REQUEST FOR PROPOSAL (RFP), VALIDATION

RFP, VALIDATION INCLUDES THE ACTIVITIES REQUIRED TO PREPARE SPECIFICATIONS FOR THE RFP, EVALUATE PROPOSALS AND SELECT CONTRACTORS, AND TO MONITOR CONTRACTOR WORK TO PROVIDE THE PRODUCTS FOR DEVELOPMENT TEST/OPERATIONAL TEST I.

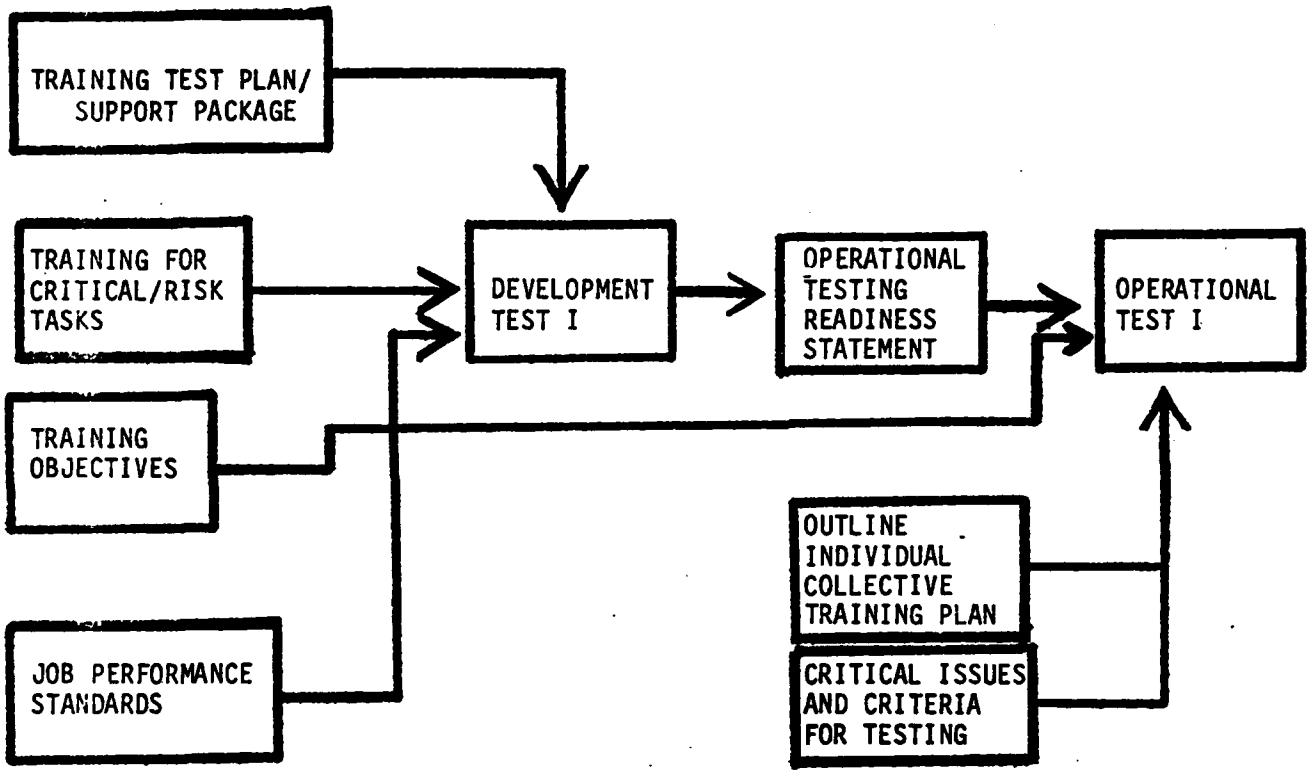
RFP
VALIDATION



DEVELOPMENT/OPERATIONAL TEST I (DT/OT I)

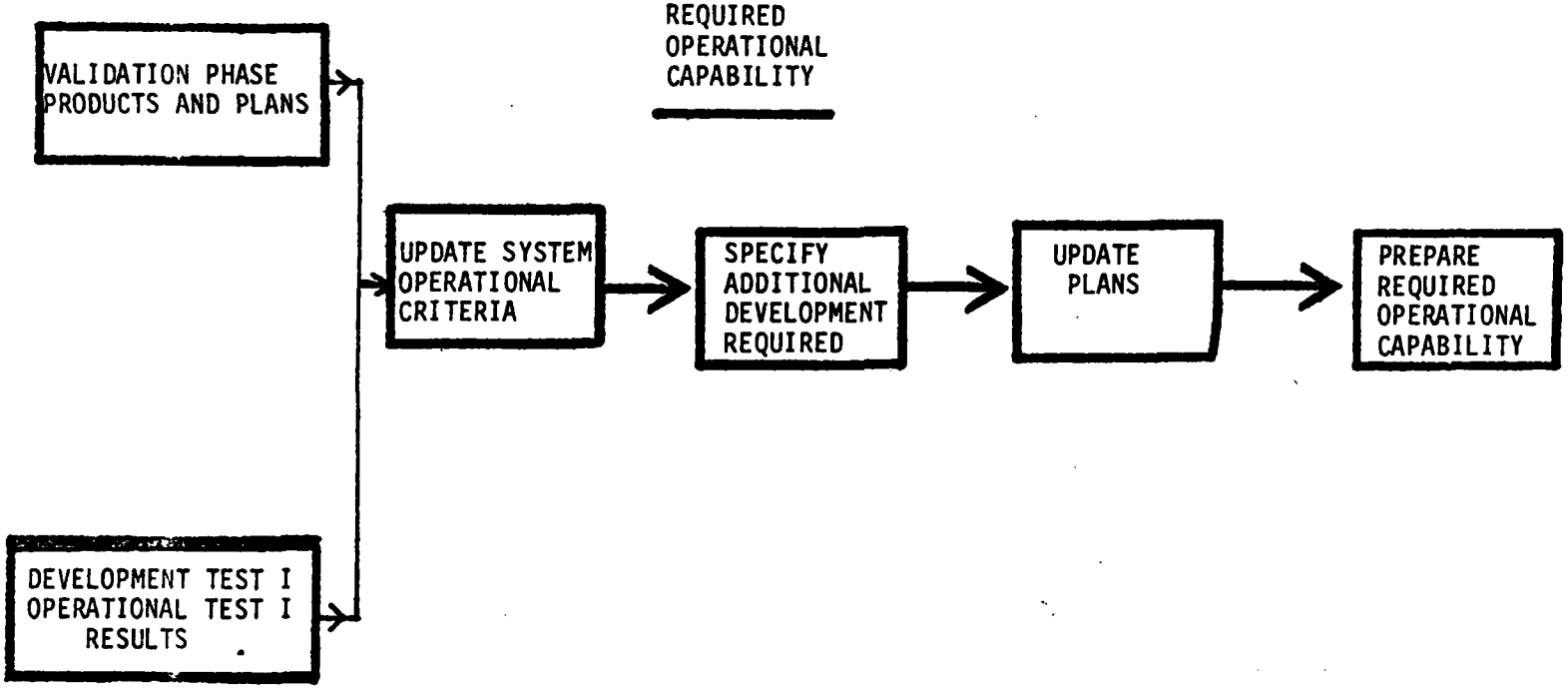
DT/OT I ARE INTENDED TO PROVE THE FEASIBILITY OF SYSTEM CONCEPTS AND, FREQUENTLY, TO NARROW THE CHOICE OF ALTERNATIVE CONCEPTS THROUGH COMPETITIVE TESTING. DT/OT I ARE ALSO USED TO GENERATE DATA FOR COSTING PURPOSES.

DEVELOPMENT TEST / OPERATIONAL TEST I (DT/OT I)



REQUIRED OPERATIONAL CAPABILITY (ROC)

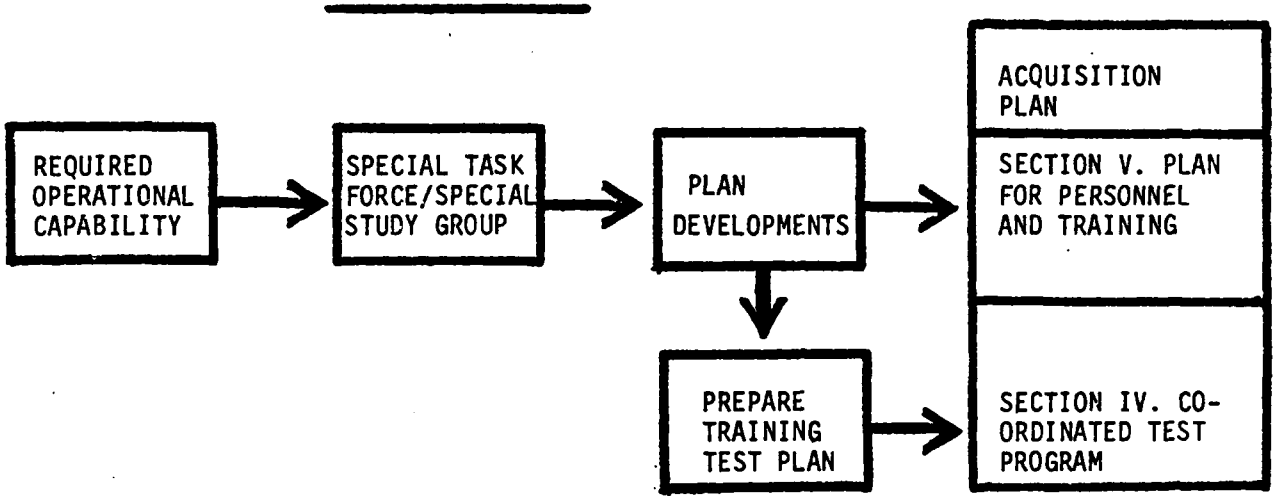
THE ROC ACTIVITY UPDATES SYSTEM OPERATIONAL CRITERIA, DESCRIBES THE SYSTEM THAT WILL MEET THESE CRITERIA, DESCRIBES THE WORK REQUIRED TO DEVELOP THAT SYSTEM, AND UPDATES ACQUISITION AND LIFE CYCLE COST ESTIMATES.


VALIDATION PHASE PRODUCTS AND PLANS
DEVELOPMENT TEST I OPERATIONAL TEST I RESULTS
UPDATE SYSTEM OPERATIONAL CRITERIA
SPECIFY ADDITIONAL DEVELOPMENT REQUIRED
UPDATE PLANS
PREPARE REQUIRED OPERATIONAL CAPABILITY
REQUIRED OPERATIONAL CAPABILITY

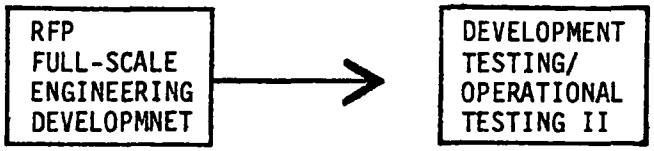
ACQUISITION PLAN (AP)

FOLLOW ROC APPROVAL, THE OAP IS UPDATED AND BECOMES THE AP. THE AP WILL INCLUDE COMPLETE REQUIREMENTS FOR THE REMAINING SYSTEM DEVELOPMENT EFFORT, INCLUDING ALL ITEMS OF SUPPORT.

ACQUISITION PLAN



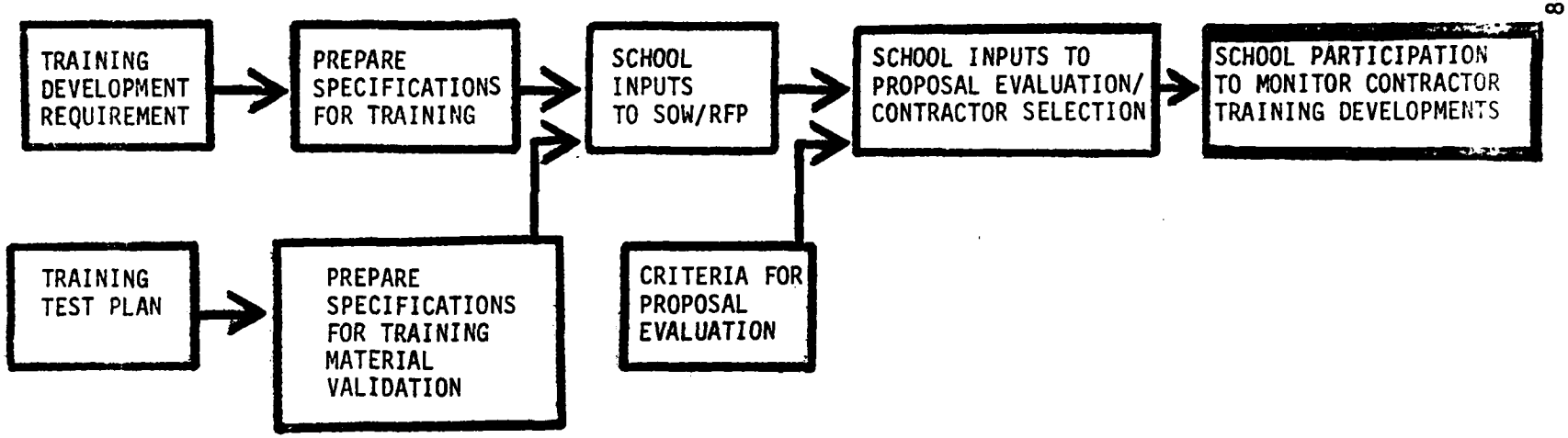
FULL-SCALE
ENGINEERING
DEVELOPMENT



RFP, FULL-SCALE ENGINEERING DEVELOPMENT

RFP, FULL-SCALE ENGINEERING DEVELOPMENT INCLUDES THE ACTIVITIES REQUIRED TO PREPARE SPECIFICATIONS FOR THE RFP, EVALUATE PROPOSALS AND SELECT CONTRACTORS, AND TO MONITOR CONTRACTOR WORK TO PROVIDE THE PRODUCTS FOR DT/OT II.

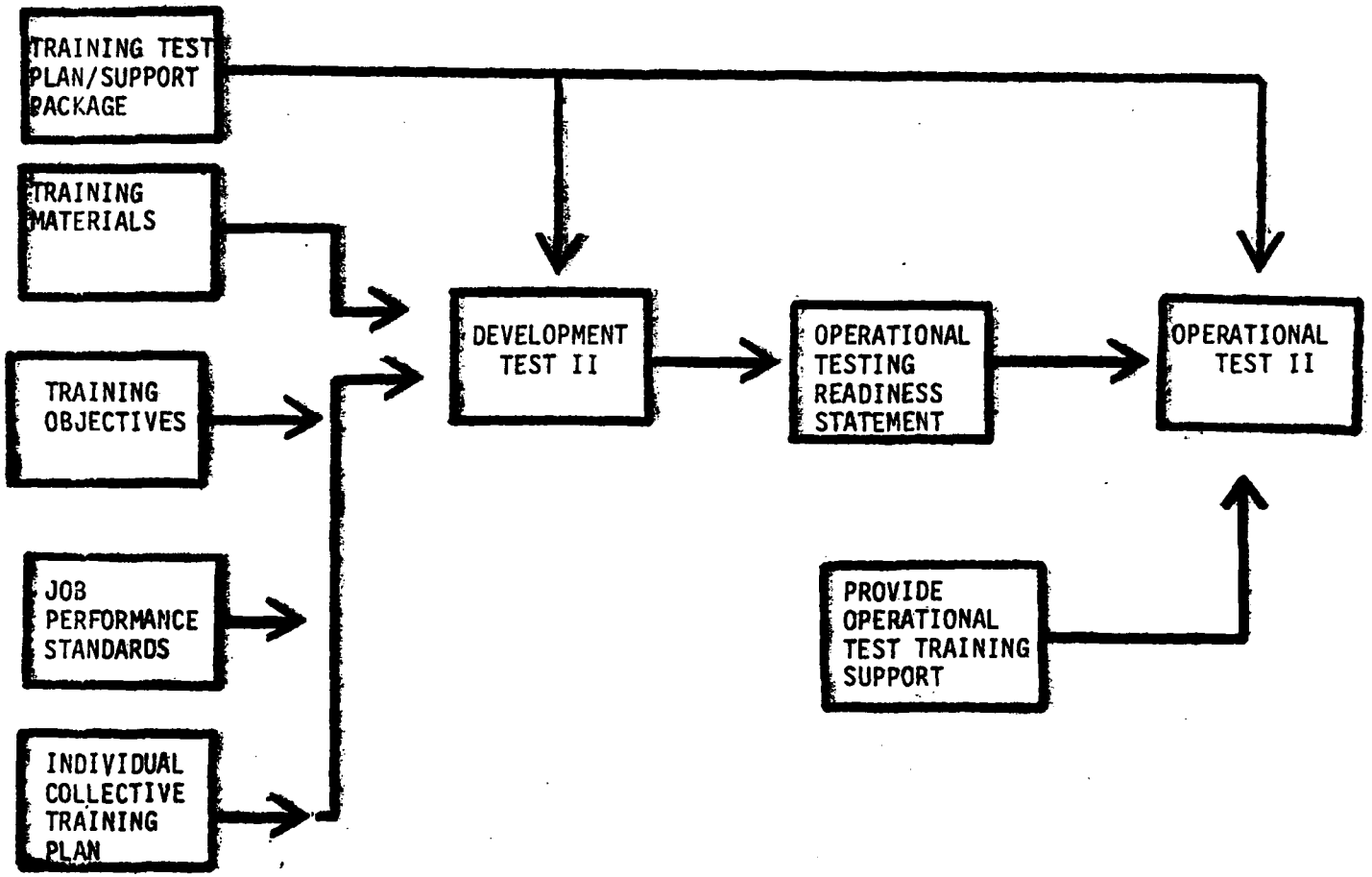
RFP
FULL-SCALE
ENGINEERING



DT II AND OT II

DT II AND OT II ARE TO DEMONSTRATE THAT ALL SYSTEM ISSUES HAVE BEEN RESOLVED, AND THAT THE SYSTEM CAN BE OPERATED AND MAINTAINED IN THE FIELD. OT II ALSO REQUIRES THAT SUPPORT SUB-SYSTEMS BE AVAILABLE FOR TESTING.

DEVELOPMENT TEST / OPERATIONAL TEST II

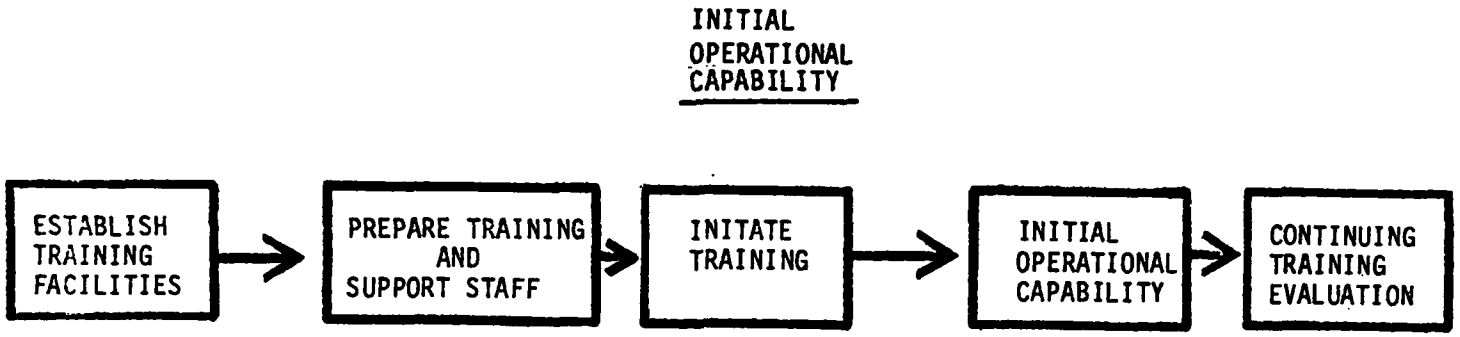


PRODUCTION
AND
DEPLOYMENT

INITIAL
OPERATIONAL
CAPABILITY

INITIAL OPERATIONAL CAPABILITY (IOC)

IOC IS ATTAINED WHEN THE FIRST TABLE ORGANIZATION AND EQUIPMENT (TOE) TROOP UNIT HAS BEEN TRAINED TO USE AND EMPLOY THE SYSTEM AND THE UNIT HAS THE CAPABILITY TO SUPPORT THE USE OF THE SYSTEM IN THE FIELD.

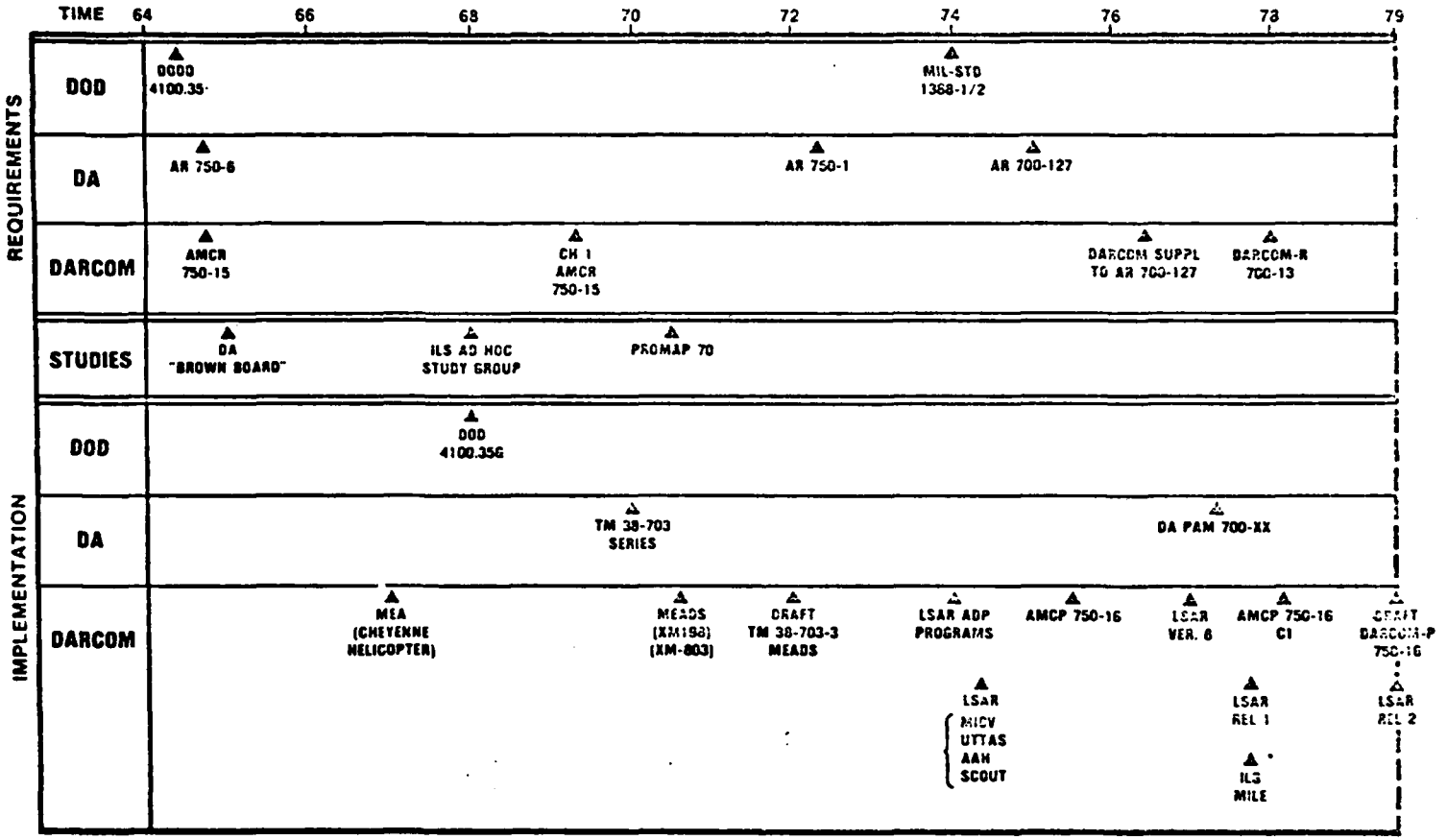

INITIAL
OPERATIONAL
CAPABILITY
ESTABLISH
TRAINING
FACILITIES
PREPARE TRAINING
AND
SUPPORT STAFF
INITATE
TRAINING
INITIAL
OPERATIONAL
CAPABILITY
CONTINUING
TRAINING
EVALUATION

- LOGISTIC
- SUPPORT
- ANALYSIS
- RECORD

GENTLEMEN

MY NAME IS_____FROM THE READINESS DIVISION OF MRSA. THIS WILL BE A 20 MINUTE INFORMATION BRIEFING COVERING INTEGRATED LOGISTIC SUPPORT - ILS - LOGISTIC SUPPORT ANALYSIS - LSA - AND THE LOGISTIC SUPPORT ANALYSIS RECORD - LSAR. SPECIFICALLY I'LL COVER WHAT EACH OF THE THREE ITEMS ARE, A BRIEF HISTORY, WHAT MRSA'S ROLE IS, THE CURRENT STATUS, AND OUR FUTURE PLANS. THE BRIEFING CONCENTRATES ON LSA AND LSAR AND DOES NOT COMPLETELY COVER OUR ILS RESPONSIBILITIES.

LSA HISTORY


TIME
64
66
68
70
72
74
76
78
79
REQUIREMENTS
IMPLEMENTATION
DOD
DA
DARCOM
STUDIES
DOD
DA
DARCOM
DODD 4100.35-
MIL-STD 1388-1/2
AR 750-6
AR 750-1
AR 700-127
AMCR 750-15
CH 1 AMCR 750-15
DARCOM SUPPL TO AR 700-127
DARCOM-R 700-13
DA "BROWN BOARD"
ILS AD HOC STUDY GROUP
PROMAP 70
DOD 4100.35G
TM 38-703 SERIES
DA PAM 700-XX
MEA (CHEYENNE HELICOPTER)
MEADS (XM198) (XM-803)
DRAFT TM 38-703-3 MEADS
LSAR ADP PROGRAMS
AMCP 750-16
LSAR VER. 6
AMCP 750-16 CI
DRAFT DARCOM-P 750-16
LSAR
MICV
UTTAS
AAH
SCOUT
LSAR REL 1
ILS MILE
LSAR REL 2

THIS SLIDE SHOWS THE DEVELOPMENT HISTORY OF ILS, LSA, AND LSAR BUT I WILL ONLY COVER THE MAJOR EVENTS. ILS WAS FIRST ESTABLISHED IN 1964 BY DOD DIRECTIVE. VARIOUS STUDIES DURING THE 1960'S INCLUDING THE BROWN BOARD IDENTIFIED THE GREAT POTENTIAL OF ILS; HOWEVER, ILS WAS NOT BEING APPLIED TO MANY SYSTEMS. DETAILED PROCEDURES FOR ILS WERE ESTABLISHED IN 1969 WITH PUBLICATION OF A SERIES OF MANUALS - TM 33-703 SERIES. THESE MANUALS DESCRIBED ILS MANAGEMENT, MAINTENANCE ENGINEERING ANALYSIS, AND A MAINTENANCE ENGINEERING ANALYSIS DATA SYSTEM - THE FORERUNNERS OF LSA AND LSAR. WHEN THIS ACTIVITY WAS FORMED IN 1973 ONE OF OUR FIRST TASKS WAS TO DEVELOP AN AUTOMATED SYSTEM THAT PROJECT MANAGERS AND CONTRACTORS COULD USE AS AN LSAR. THIS WAS ACCOMPLISHED IN EARLY 1974 AND THE LSAR SYSTEM DEVELOPED HAS SINCE BEEN USED ON A NUMBER OF DEVELOPMENT PROGRAMS.

LSAR INPUT DATA SHEETS

A - END ITEM MAINTENANCE REQUIREMENTS

B - HOW THE ITEM FAILS

C - WHERE AND WHO FIXES THE FAILED ITEM

D - HOW THE FAILED ITEM IS FIXED

E - DESCRIPTION AND JUSTIFICATION FOR SPECIAL TOOLS, TMDE, AND TRAINING EQUIPMENT

F - DESCRIPTION AND JUSTIFICATION FOR NEW FACILITIES

G - REQUIREMENTS AND JUSTIFICATION FOR NEW SKILLS

H - REPAIR PARTS REQUIREMENTS-PROVISIONING

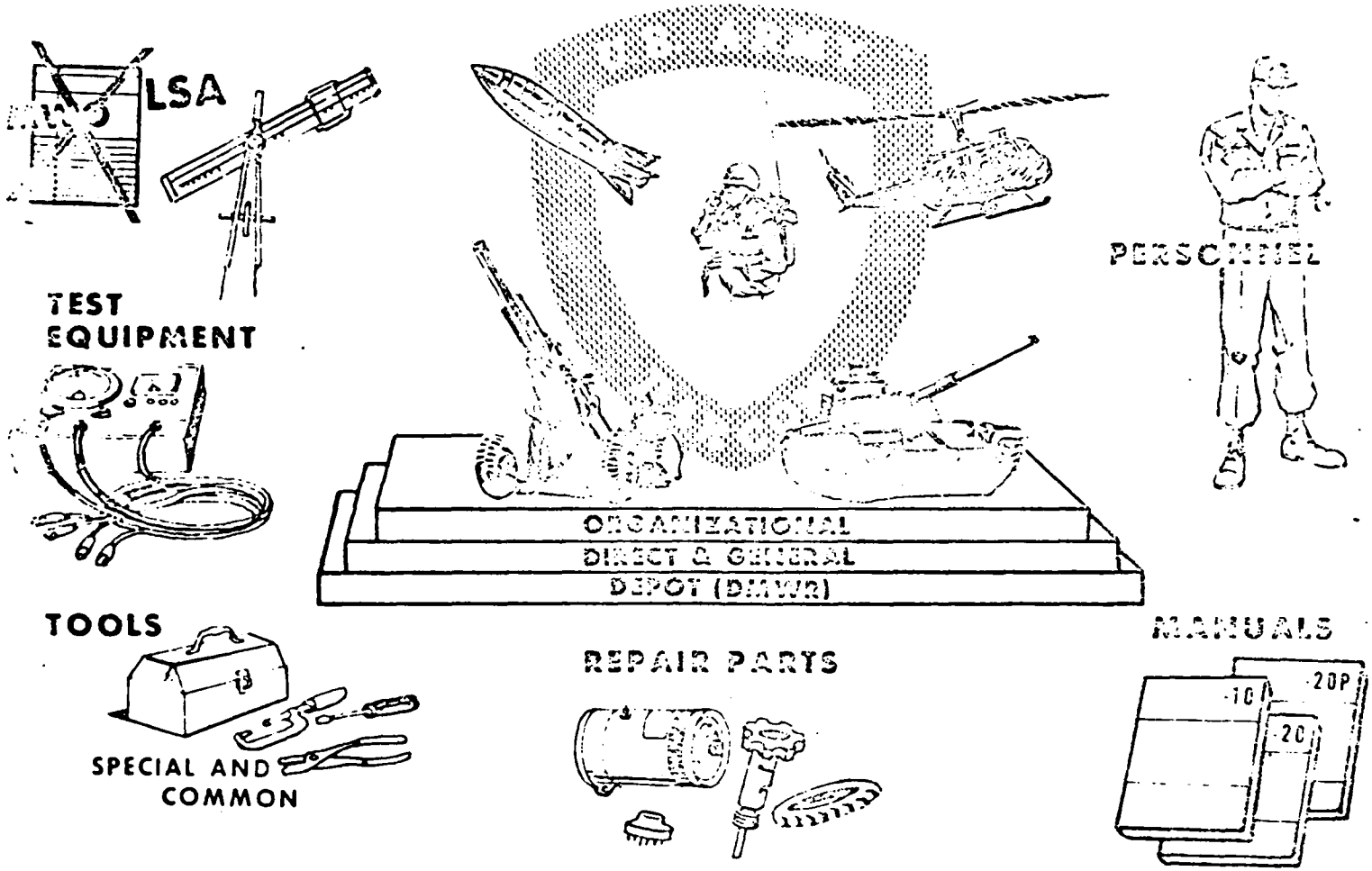
J - TRANSPORTABILITY ENGINEERING CHARACTERISTICS

THE LSAR IS COMPOSED OF NINE STANDARD INPUT DATA SHEETS. THIS SLIDE PROVIDES A VERY GENERAL DESCRIPTION OF THE TYPE OF DATA ON EACH SHEET. THIS TYPE OF DATA WOULD BE BOUGHT IN ONE FORM OR ANOTHER ON ANY DEVELOPMENT PROGRAM. THE LSAR IS SIMPLY A CENTRALIZED OR INTEGRATED DATA BANK OF LOGISTIC DATA DESIGNED TO HELP ELIMINATE MAINTENANCE OF DUPLICATE OR REDUNDANT DATA AND TO HELP ENSURE COMPATABILITY BETWEEN THE VARIOUS SUPPORT ITEMS DELIVERED TO THE FIELD LIKE TECHNICAL MANUALS, TRAINING PROGRAMS, AND REPAIR PARTS.

LSAR OUTPUT SUMMARIES

01	DIRECT ANNUAL MAINTENANCE MAN-HOURS
02	PERSONNEL AND SKILL SUMMARY
03	RELIABILITY AND MAINTENANCE SUMMARY
04	MAINTENANCE ALLOCATION SUMMARY
05	SUPPORT ITEM UTILIZATION SUMMARY
06	CRITICAL MAINTENANCE TASK SUMMARY
07	SUPPORT ITEM REQUIREMENTS BY SKILL SPECIALTY
08	SUPPORT ITEM REQUIREMENTS BY MAINTENANCE CATEGORY
09	SUPPORT ITEMS LIST
10	SUPPORT ITEMS LIST
11	SPECIAL TRAINING DEVICE REQUIREMENTS
12	SPECIAL FACILITY REQUIREMENTS
13	SUPPORT EQUIPMENT REQUIREMENTS
14	TRAINING TASK LIST
20	TOOL AND EQUIPMENT REQUIREMENTS
26	REPAIR PARTS LIST
27	SPECIAL TOOLS LIST
28	CROSS REFERENCE INDEX
29	REPAIR PARTS LIST BY TM NUMBER
30	SPECIAL TOOLS LIST BY TM NUMBER
31	CROSS REFERENCE INDEX BY TM NUMBER
36	PROVISIONING DATA (MIL-STD-1552 FORMAT)

THIS SLIDE SHOWS THE OUTPUT SUMMARIES THAT CAN BE PRODUCED USING THE COMPUTER PROGRAMS WE EXPORT. THESE SUMMARIES INCLUDE PERSONNEL SUMMARIES WHICH DISPLAY DIRECT ANNUAL MAINTENANCE MANHOUR REQUIREMENTS BY MOS AND LEVEL OF MAINTENANCE, A MAINTENANCE ALLOCATION CHART WHICH GOES INTO THE ORGANIZATIONAL MAINTENANCE MANUAL, REPAIR PARTS AND SPECIAL TOOLS LISTS WHICH ARE USED TO DEVELOP THE P MANUALS OR RPSTL'S, AND PROVISIONING DATA ON COMPUTER CARDS OR MAGNETIC TAPE WHICH IS USED AS DIRECT INPUT TO DARCOM'S AUTOMATED PROVISIONING SYSTEM.



BE SURE THAT DARCOM EQUIPMENT CAN BE MAINTAINED AND SUPPORTED IN THE FIELD

THIS IS A PICTORIAL REPRESENTATION OF LOGISTIC SUPPORT ANALYSIS. LSA HAS TWO PURPOSES - FIRST, TO INFLUENCE THE DESIGN OF A NEW SYSTEM WHILE IT'S ON THE DRAWING BOARD TO MINIMIZE THE MANPOWER AND COST REQUIRED TO SUPPORT THE SYSTEM IN THE FIELD, AND SECONDLY TO IDENTIFY THE SUPPORT REQUIREMENTS OF THE FINAL DESIGN. SPECIFICALLY - WHAT MOS'S ARE REQUIRED, HOW MANY, AND WHAT ARE THE TRAINING REQUIREMENTS; WHAT INSTRUCTIONS ARE REQUIRED SO THE EQUIPMENT CAN BE ADEQUATELY OPERATED AND MAINTAINED; WHAT PARTS ARE REQUIRED, HOW MANY AND WHERE SHOULD THEY BE STOCKED; WHAT TOOLS ARE REQUIRED; AND WHAT TEST EQUIPMENT IS REQUIRED. THESE REQUIREMENTS ARE DETERMINED FOR ALL MAINTENANCE LEVELS FROM THE OPERATOR OR CREW THROUGH DEPOT. THE ANALYSIS IS DONE CONTINUOUSLY THROUGHOUT THE DEVELOPMENT PROGRAM AND THE DATA IS PERIODICALLY UPDATED AS DESIGNS CHANGE AND TEST RESULTS ARE AVAILABLE. THROUGH THIS PROCESS WE'RE TRYING TO PRECLUDE THOSE MODIFICATION WORK ORDERS REQUIRED TO CORRECT SUPPORT DEFICIENCIES. IT IS MUCH EASIER AND CHEAPER TO MODIFY A DESIGN DRAWING THAN TO APPLY AN MWO ON EQUIPMENT IN THE FIELD.

MRSA ROLE IN LSA

CENTRAL DESIGN AGENCY FOR THE LSAR

- LSAR DESIGN
- ADP PROGRAM EXPORT

DEVELOP LSA DOCUMENTATION

- DARCOM PAM 750-16, DARCOM GUIDE TO LOGISTIC SUPPORT ANALYSIS
- LSAR FIVE YEAR ENHANCEMENT PLAN

PROVIDE IMPLEMENTATION ASSISTANCE

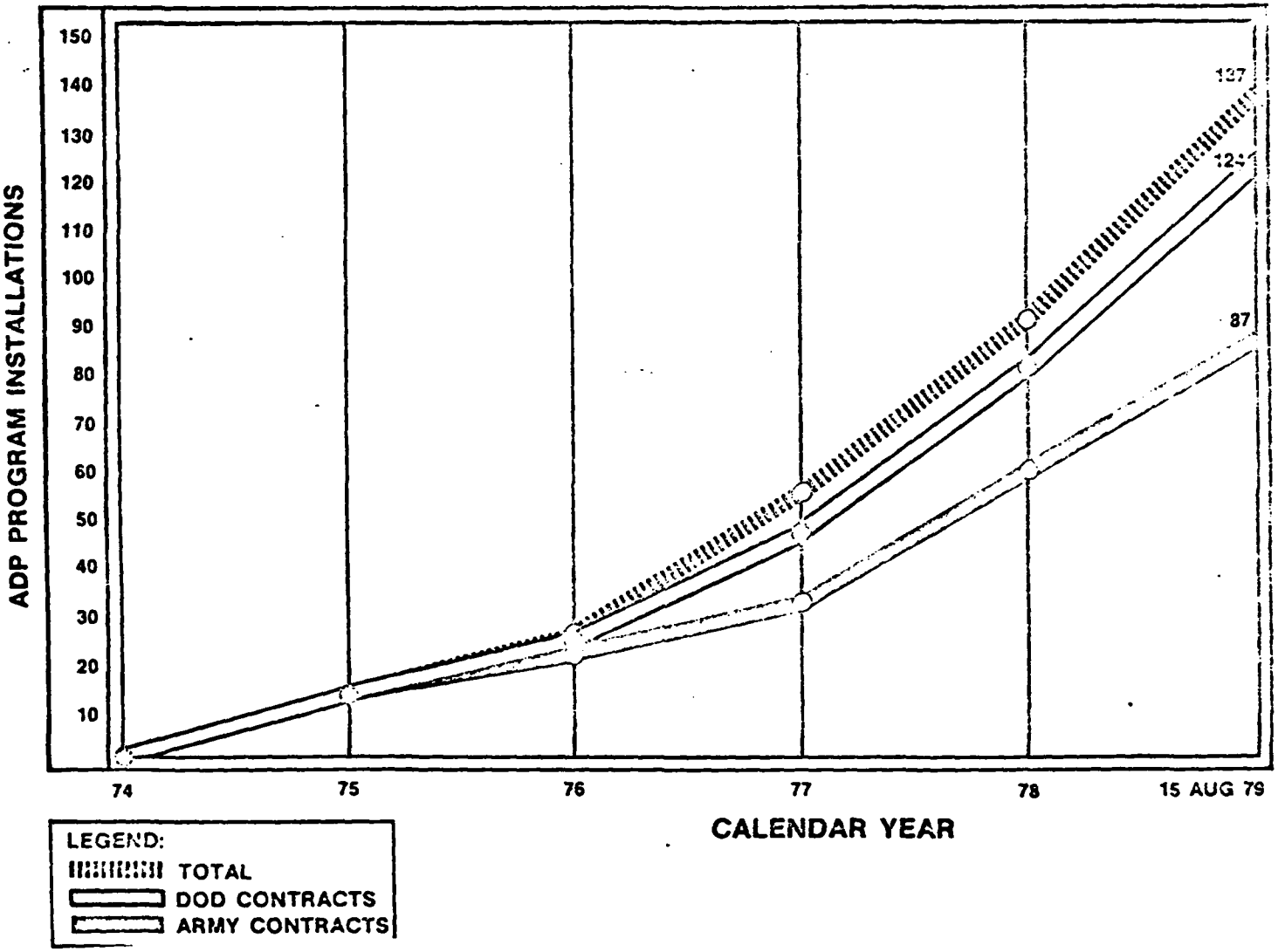
THIS SLIDE SHOWS OUR ROLE AT MRSA IN LSA AND LSAR. IT DOES NOT COVER OUR TOTAL ILS RESPONSIBILITIES.

WE DEVELOPED AND MAINTAIN DARCOM PAMPHLET 750-16 WHICH IS USED AS THE CONTRACTUAL REQUIREMENT FOR LOGISTIC SUPPORT ANALYSIS AND THE LOGISTIC SUPPORT ANALYSIS RECORD WITHIN DARCOM. IT REPRESENTS DARCOM'S IMPLEMENTATION OF THE DOD AND DA REQUIREMENTS. WE ALSO DEVELOPED AND ARE CARRYING OUT AN ENHANCEMENT PLAN WHICH I'LL DISCUSS LATER IN THE BRIEFING.

MRSA HAS BEEN DESIGNATED AS THE CENTRAL DESIGN ACTIVITY FOR THE LSAR COMPUTER PROGRAM. THIS PROGRAM HAS BEEN DESIGNED AND DEVELOPED HERE AT MRSA AND WE EXPORT THAT PROGRAM TO DEFENSE CONTRACTORS AND OTHER GOVERNMENT ACTIVITIES FOR USE ON INDIVIDUAL WEAPON DEVELOPMENT PROGRAMS.

THE ASSISTANCE WE PROVIDE ON DEVELOPMENT PROGRAMS IS VARIED AND INVOLVES MOST OF OUR ORGANIZATION. IT CAN BE COMPUTER PROGRAMER ASSISTANCE TO A CONTRACTOR IN IMPLEMENTING LSAR, PARTICIPATION IN GOVERNMENT REVIEWS OF THE CONTRACTORS EFFORTS, ASSISTANCE IN PREPARING CONTRACT STATEMENTS OF WORK, TECHNICAL ADVICE TO SOURCE SELECTION EVALUATION BOARDS, OR MANY OTHER EFFORTS - ALL DESIGNED TO ENSURE ADEQUATE LOGISTIC PLANNING AND EXECUTION ON NEW WEAPON SYSTEMS.

LSAN INSTALLATIONS



THIS SLIDE SHOWS THE GROWTH IN THE NUMBER OF DEFENSE CONTRACTORS AND GOVERNMENT ACTIVITIES THAT HAVE REQUESTED THE LSAR COMPUTER PROGRAMS. THE RED LINE REPRESENTS THE NUMBER OF CONTRACTORS AND GOVERNMENT ACTIVITIES THAT WE HAVE PROVIDED THE PROGRAMS TO IN SUPPORT OF ARMY PROJECTS. THE GREEN LINE REPRESENTS THE NUMBER OF PROGRAM USERS FOR ARMY, NAVY, AIR FORCE, AND MARINE PROJECTS. THE BLUE LINE REPRESENTS THE TOTAL NUMBER OF USERS AND INCLUDES CONTRACTORS THAT HAVE REQUESTED THE COMPUTER PROGRAMS BUT DO NOT HAVE AN EXISTING DOD CONTRACT REQUIREMENT FOR LSAR. THESE CONTRACTORS ENVISION FUTURE REQUIREMENTS FOR LSAR.

LSAR PROJECT/COMMAND SUPPORT

FVS	ROLAND	TARCOM
UTTAS	GLLD	AVSCOM
XM-1	PADS	ARRCOM
AAH	QUICK FIX RANGE FINDER	MERADCOM
PATRIOT	FAMECE	CERCOM
XM-128	MEP 10 KW	MIRCOM
XM-198	AN/TTC-39	ALMC
XM-204	DGM	LOG CENTER
T-700	TCCF	ARRADCOM
MILES	TENLEY CRYPTO EQUIP	ASA
BATTERY CHARGER	UTTAS SIMULATOR	NSA
TRC-170	SPACE SHUTTLE	WRIGHT-PAT AFB
HELLFIRE	CRUISE MISSILE GUIDANCE SET	HILL AFB
DIGITAL PROCESSOR	BUSHMASTER	NAVAIR
INTEGRATED AVIONICS CONTROL SYS.	LAND COMBAT SUPPORT SYSTEMS	HDL
	TACTICAL DIGITAL FACSIMILE	CSLA
NAVY LAMPS	B52/KC-135 FLIGHT SIMULATOR	NAVSCC
ITV	B52 MOD	HANSCOM AFB
IRETS	MK 48 TORPEDO	GSRS
PLSS	MULE	ARTADS
XM-29	REMBASS	APG
MEP 150 KW	AN/UYQ-10	TA-978-G

SHOWN HERE ARE THE INDIVIDUAL PROJECTS THAT HAVE REQUESTED THE LSAR PROGRAMS. THESE INCLUDE THE ARMY'S "BIG FIVE" PROJECTS AS WELL AS SOME NAVY AND AIR FORCE PROJECTS. THE LSAR IS A STANDARDIZED SYSTEM WITHIN DARCOM. THE AIR FORCE AND NAVY HEADQUARTERS HAVE NOT YET DEVELOPED A STANDARD PROGRAM. INDIVIDUAL AIR FORCE AND NAVY PROJECT OFFICES HAVE DECIDED TO USE THE ARMY SYSTEM IN THE ABSENCE OF A STANDARD PROGRAM WITHIN THEIR [redacted]. SERVICES

AR 700-127 REQUIREMENT

A FILE...TO SERVE AS THE SOURCE FOR:

PROVISIONING

MAINTENANCE MANHOURS

PERSONNEL AND SKILLS (e.g. QQPRI); HUMAN FACTORS

ALLOCATION OF MAINTENANCE TASKS

REPAIR PARTS

SUPPORT EQUIPMENT

OPERATOR AND MAINTENANCE PUBLICATIONS

FACILITY REQUIREMENTS

RELIABILITY, AVAILABILITY, AND MAINTAINABILITY

TRANSPORTATION, TRANSPORTABILITY, AND HANDLING

I CAN BEST SUMMARIZE THE CURRENT STATUS OF OUR LSAR BY COMPARING WHAT WE HAVE DEVELOPED THUS FAR WITH THE REQUIREMENTS SPELLED OUT IN ARMY REGULATION 700-127. THIS CHART SHOWS THE DESCRIPTION OF THE LSAR AS CONTAINED IN THE AR.

AR 700-127 REQUIREMENT

A FILE...TO SERVE AS THE SOURCE FOR:

- PROVISIONING
- MAINTENANCE MANHOURS
- PERSONNEL AND SKILLS (e.g. OOPRI); HUMAN FACTORS
- ALLOCATION OF MAINTENANCE TASKS
- REPAIR PARTS
- SUPPORT EQUIPMENT
- OPERATOR AND MAINTENANCE PUBLICATIONS
- FACILITY REQUIREMENTS
- RELIABILITY, AVAILABILITY, AND MAINTAINABILITY
- TRANSPORTATION, TRANSPORTABILITY, AND HANDLING

MATERIEL DEVELOPER RESPONSIBILITIES

- CONTRACT PREPARATION
- PROVIDE SOURCE DATA FOR LSA
- ESTABLISH AND IMPLEMENT DATA VERIFICATION PROCEDURES
- ENSURE DATA UTILIZATION

OUR ROLE AT MRSA IN LSA AND LSAR CAN BEST BE DESCRIBED AS DESIGNING AND PROVIDING TOOLS TO MATERIEL DEVELOPERS THAT WILL HELP THEM IN THEIR LOGISTIC EFFORTS. THIS SLIDE SHOWS SOME OF THE MAJOR RESPONSIBILITIES OF THE ACTUAL DEVELOPER - PROJECT MANAGER OR DEVELOPMENT COMMAND - THAT MUST BE ADEQUATELY ACCOMPLISHED IF THE OBJECTIVES OF ILS ARE TO BE ACHIEVED.

FIRST, THE MAJORITY OF THE ARMY'S LOGISTIC SUPPORT ANALYSIS IS ACCOMPLISHED BY DEFENSE CONTRACTORS. THE CONTRACT MUST ADEQUATELY SPELL OUT WHAT WE WANT THAT CONTRACTOR TO DO IN ORDER TO ACHIEVE THE DESIRED RESULTS.

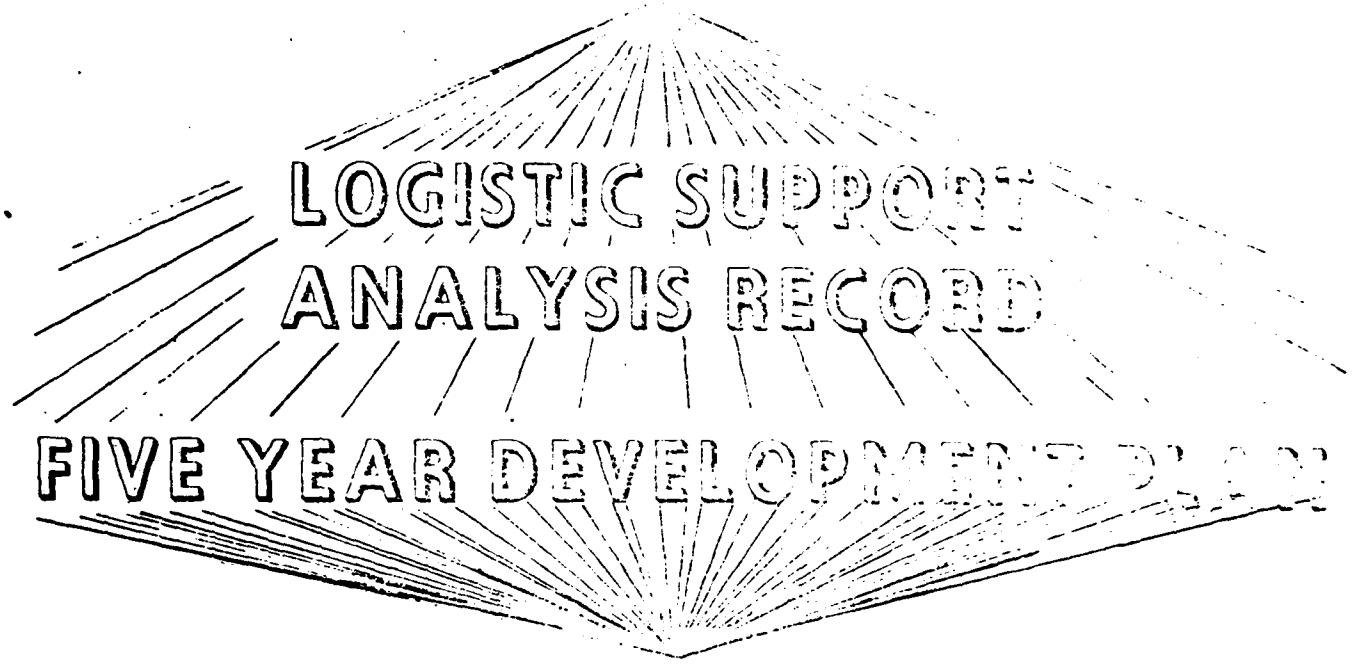
SECONDLY, IF THE DEFENSE CONTRACTOR IS GOING TO MINIMIZE THE SUPPORT BURDEN INFLICTED ON FIELD TROOPS WHEN THE NEW END ITEM IS DEPLOYED, HE MUST KNOW WHAT THE ARMY'S EXISTING TEST EQUIPMENT IS, WHAT OUR INDIVIDUAL MOS'S ARE CAPABLE OF DOING, WHAT TRAINING THEY RECEIVE, AND WHAT TOOLS WE CURRENTLY HAVE IN THE UNITS THAT ARE SCHEDULED TO RECEIVE THE NEW WEAPON SYSTEM. ONLY IF HE HAS THIS TYPE OF DATA CAN A CONTRACTOR DESIGN A WEAPON THAT CAN BE DEPLOYED TO FIELD UNITS WITH A MINIMUM IMPACT ON LOGISTICS REQUIREMENTS. THE ALTERNATIVE IS DEPLOYMENT OF A NEW SYSTEM AND DEPLOYMENT OF PECULIAR TOOLS, PECULIAR TEST EQUIPMENT, AND NEW SKILLS TO SUPPORT THAT SYSTEM.

FINALLY, IT IS THE DEVELOPERS RESPONSIBILITY TO ESTABLISH PROCEDURES WHEREBY WE -

MATERIEL DEVELOPER RESPONSIBILITIES

- CONTRACT PREPARATION
- PROVIDE SOURCE DATA FOR LSA
- ESTABLISH AND IMPLEMENT DATA VERIFICATION PROCEDURES
- ENSURE DATA UTILIZATION

THE GOVERNMENT - CAN DEVELOP CONFIDENCE THAT THE CONTRACTOR IS CONDUCTING A COMPLETE ANALYSIS AND THAT THE DATA BEING GENERATED IS FACTUAL AND USEABLE. THIS IS GENERALLY DONE THROUGH ESTABLISHMENT OF MANAGEMENT OR REVIEW TEAMS MADE UP OF GOVERNMENT TRAINING PERSONNEL, PUBLICATION SPECIALISTS, PROVISIONERS, AND OTHERS WHO PERIODICALLY REVIEW THE CONTRACTORS EFFORTS.



LSAR FYDP
FY 78 - FY 82

BASED ON FEEDBACK RECEIVED FROM GOVERNMENT AND CONTRACTOR USERS OF THE LSAR AND ON KNOWN AREAS OF LSA REQUIRING ENHANCEMENT, WE DEVELOPED AND DISTRIBUTED A FIVE YEAR PLAN IN 1977.

LSAR FIVE YEAR DEVELOPMENT PLAN

PURPOSE

- PROVIDE A MEANS OF PLANNING AND PRIORITIZING LSA/LSAR TASKS

- PROVIDE A MEANS FOR USERS TO INPUT TO THE LSA/LSAR DEVELOPMENTAL PROCESS

THE PLAN HAS TWO MAJOR OBJECTIVES AS SHOWN.

THE FIRST PURPOSE REFLECTS THE FACT THAT LIMITED RESOURCES ARE AVAILABLE AT MRSA TO ACCOMPLISH THE REQUIRED ENHANCEMENTS AND IT PROVIDES VISIBILITY TO USERS CONCERNING FUTURE SYSTEM CAPABILITY.

ADDITIONALLY THE PLAN PROVIDES A FORMAL MEANS FOR USERS TO IDENTIFY TO MRSA AND HQ, DARCOM WHAT THEY FEEL IS REQUIRED AND WHAT WOULD MOST BENEFIT THEIR PROGRAMS. THE PLAN IS UPDATED YEARLY TO REFLECT CHANGING REQUIREMENTS AND SCHEDULES.

ENHANCEMENTS DURING FY 78

LSA/LSAR DESIGN

- SKILL PERFORMANCE AIDS UPDATE
- PROVISIONING ENHANCEMENTS
- SURVIVABILITY ANALYSIS

LSA/LSAR MANAGEMENT ENHANCEMENTS

- LSA/LSAR TAILORING PROCEDURES GUIDE
- LSA/LSAR REVIEW TEAM GUIDE

INTERFACE DEVELOPMENT/REVIEW

- TRANSPORTABILITY ENGINEERING
- FACILITIES
- SAFETY
- HUMAN ENGINEERING
- PACKAGING, STORAGE, CONTAINERIZATION

SHOWN HERE ARE SOME OF THE MAJOR EFFORTS UNDERTAKEN DURING FY 78 THAT WERE CONTAINED IN THE PLAN.

THE LSAR WAS UPDATED TO CAPTURE ADDITIONAL TRAINING DATA TO SUPPORT THE SKILL PERFORMANCE AIDS PROGRAM. ADDITIONALLY A NEW OUTPUT SUMMARY WAS DEVELOPED WHICH DISPLAYS THOSE TASKS WHICH THE CONTRACTOR RECOMMENDS FOR INCLUSION IN A TRAINING PROGRAM, A RECOMMENDATION CONCERNING WHETHER THE TRAINING SHOULD BE FORMAL CLASSROOM INSTRUCTION OR PART OF AN ON-THE-JOB TRAINING PACKAGE, AND THE CONTRACTORS RATIONALE FOR HIS RECOMMENDATIONS.

FIVE ADDITIONAL PROVISIONING DATA ELEMENTS WERE ADDED AT THE REQUEST OF THE READINESS COMMANDS.

A TAILORING PROCEDURES GUIDE HAS BEEN PREPARED AND IS CURRENTLY IN FINAL STAFFING AT HQ, DARCOM. THIS GUIDE PROVIDES SAMPLE LSA AND LSAR STATEMENTS OF WORK FOR CONTRACTS FOR DIFFERENT PHASES OF THE LIFE CYCLE AND DIFFERENT TYPES OF PROCUREMENT - DEVELOPMENTAL, COMMERCIAL BUY, PRODUCT IMPROVEMENT, ETC.

A REVIEW TEAM GUIDE HAS BEEN PREPARED FOR STAFFING DURING 2D QTR FY 79 WHICH PROVIDES GUIDANCE ON HOW TO REVIEW A CONTRACTORS EFFORT, RECOMMENDED MEMBERSHIP FOR A REVIEW TEAM, AND A CHECKLIST OF QUESTIONS THAT SHOULD BE CONSIDERED DURING EACH REVIEW.

A TRANSPORTABILITY ENGINEERING DATA SHEET WAS ADDED TO THE LSAR BASED ON OUR COORDINATION EFFORTS WITH THE US ARMY MILITARY TRAFFIC MANAGEMENT COMMAND. THIS DATA SHEET PROVIDES THE BASIC DATA NECESSARY TO OBTAIN TRANSPORTABILITY APPROVAL FOR A NEW WEAPON SYSTEM.

A DRAFT GUIDE WAS DEVELOPED WHICH PROVIDES A METHODOLOGY FOR PREDICTING REPAIR PARTS REQUIREMENTS IN A COMBAT ENVIRONMENT. THIS GUIDE IS CURRENTLY BEING CONSIDERED IN TERMS OF A PILOT PROGRAM OR INDUSTRY REVIEW PRIOR TO FINALIZATION.

FINALLY WE COORDINATED THE LSAR WITH THE DA AND DARCOM PROPONENTS FOR THE PROGRAMS SHOWN TO IDENTIFY AREAS OF OVERLAP AND TO DEVELOP MAXIMUM UTILIZATION OF THE LSAR ON DEVELOPMENTAL PROGRAMS.

THE FIVE YEAR PLAN HAS BEEN UPDATED FOR FY 83 AND IS CURRENTLY IN STAFFING AT HQ, DARCOM. DURING FY 79 THE MAJOR THRUSTS WILL BE DEVELOPMENT OF A PROVISIONING BUDGET FORECASTING PROCEDURE UTILIZING THE LSAR DATA FILE, ENHANCED CONTRACTING PROCEDURES, AND DEVELOPMENT OF ADDITIONAL OUTPUT CAPABILITY FROM THE LSAR.

THIS CONCLUDES MY BRIEFING.

ENHANCEMENTS DURING FY 79-FY 83

LSA/LSAR DESIGN

- DEVELOPMENT OF SUBCELL 4H33 (LSAR) OF THE COMMODITY COMMAND STANDARD SYSTEM
- PROVISIONING BUDGET FORECASTING
- CAMERA READY OUTPUTS (MAC AND RPSTL)
- LSAR OUTPUT REPORTS
  - BASIC ISSUE ITEMS (BII)
  - COMPONENTS OF END ITEMS (COEI)
  - ADDITIONAL AUTHORIZATION LIST
  - EXPENDABLE SUPPLIES AND MATERIELS LIST (ESML)

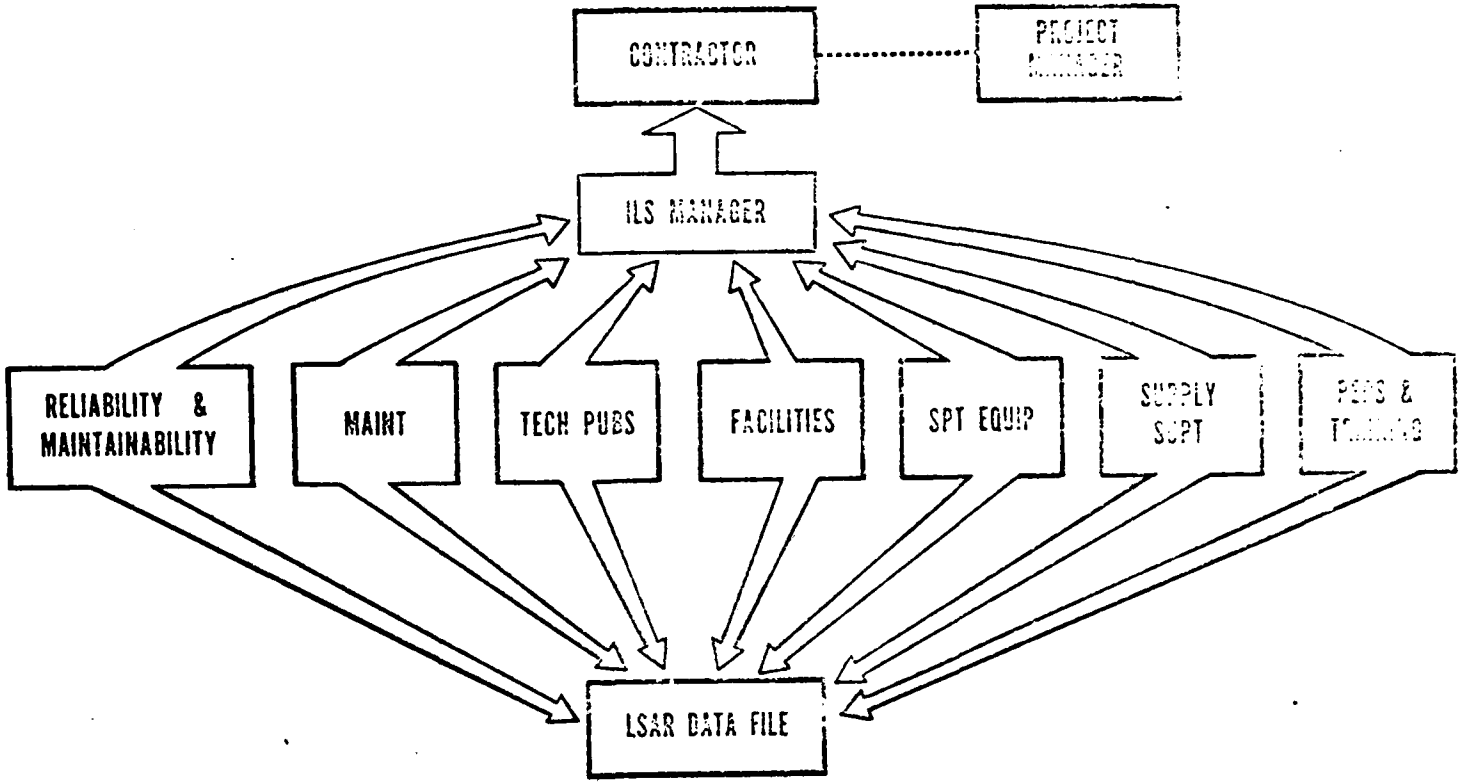
LSA/LSAR MANAGEMENT ENHANCEMENTS

- PROCEDURES FOR EVALUATING LSAR CONTRACT COST PROPOSALS

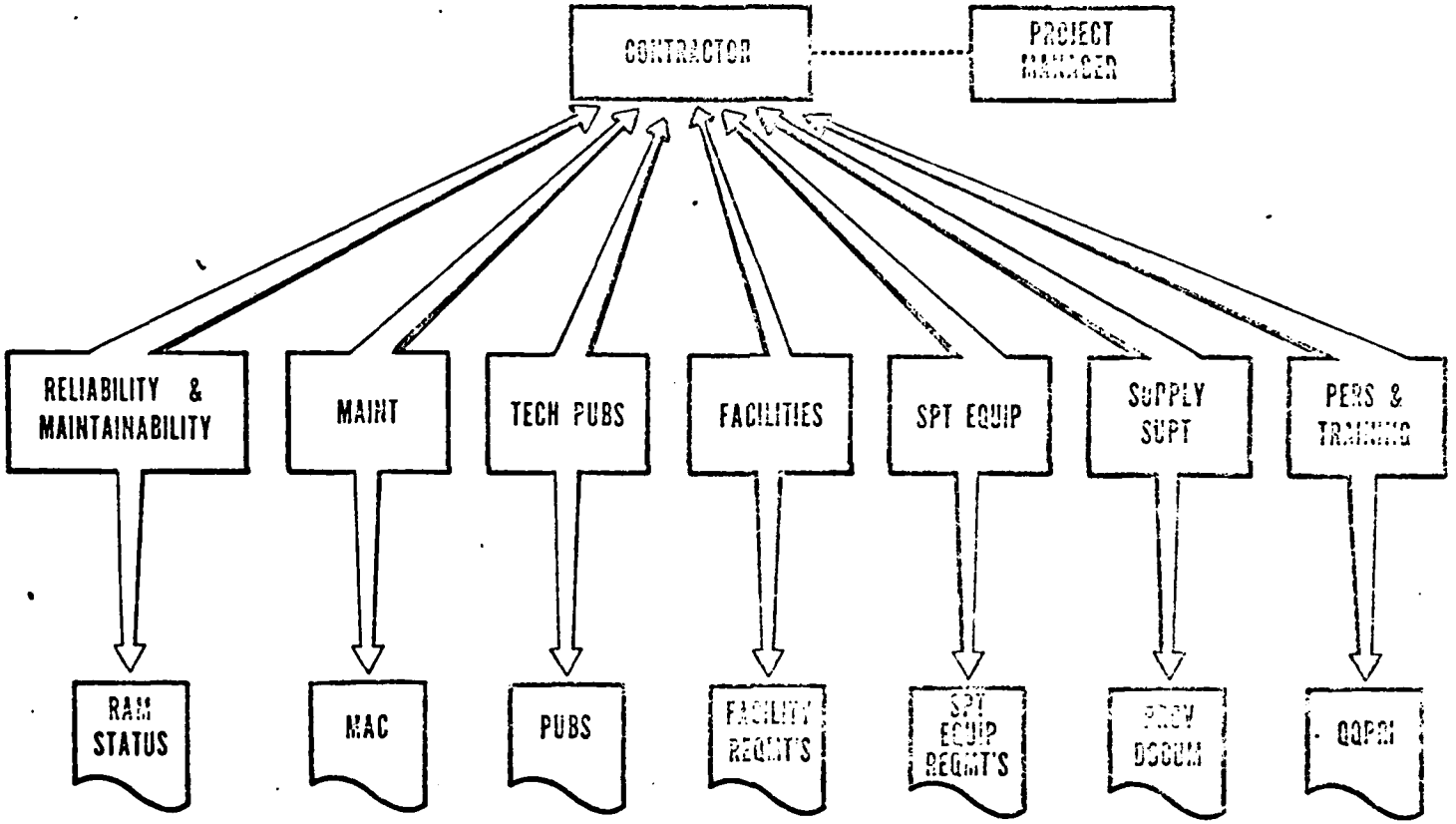
INTERFACE DEVELOPMENT

- JOINT SERVICE STANDARDIZATION EFFORTS
- DARCOM COMMON TEST DATA COLLECTION SYSTEM
- SYSTEM SUPPORT PACKAGE (SSP)

ILS MANAGEMENT - CONTRACTOR



ILS MANAGEMENT - CONTRACTOR



SKILL PERFORMANCE AIDS

1. SKILL PERFORMANCE AIDS

   a. SPAS DESCRIPTION (INCL 1)

   b. ETM DEFINITION (INCL 2)

   c. ETM DESCRIPTION (INCL 3 - 6)

   d. ETM SCENARIO (INCL 7)

2. LSA/LSAR PRODUCTS USED IN SPAS PROCESS (INCL 8)

3. DEVELOPMENT PROCESS FOR ETM DEVELOPMENT (INCL 9)

   a. DATA COLLECTION

      (1) LSAR 14

      (2) D SHEETS/DRAFT TM

      (3) G SHEETS

   b. TASK SELECTION FOR ETM

      (1) START WITH LSAR 14

      (2) REFINE USING CRITERIA OF SPEED, ACCRACY, PERFORMANCE W/O MANUAL AND ETC. (INCL 10)

   c. GROUPING TASKS (INCL 11)

   d. LESSON DESIGN APPROACH (INCL 12)

4. SPAS INTERMEDIATE DELIVERABLES THAT CAN BE USED TO ASSIST IN THE COMPLETION OF TRADOC FORM 550.

   a. LSAR 14 W/D AND G SHEETS

   b. DRAFT TM PAGES

   c. LESSON DESIGN APPROACHES

5. WHEN LSAR IS DELAYED IN THE PROCUREMENT CYCLE OR WHEN LSA IS NOT PROCURED THE FOLLOWING DOCUMENTS CAN BE USED.

   a. TASK SELECTED FOR TRAINING LIST WITH RATIONALE WHICH IS DEVELOPED FROM THE PMAC/MAC AND RPSTL AND TRADOC PAM 350-30 CRITERIA.

b. DRAFT TM PAGES

c. LESSON DESIGN APPROACHES

6. FUTURE PHASED PROCUREMENT OF ETM WILL DELAY THE AVAILABILITY OF THE INFORMATION IN PARAGRAPH 4 ABOVE AND REQUIRE INCREASED UTILIZATION OF PMAC, RPSTL AND DRAFT TM USAGE FOR EARLY REQUIREMENTS IN JOB AND TASK ANALYSIS.

7. THE SPAS CONCEPT DOES NOT REQUIRE AN LDA FOR ALL TASKS LISTED FOR TRAINING ON THE LSAR 14 BUT RATHER ONLY THOSE TASKS ON THE APPROVED ETM TASK FOR TRAINING LIST.

SKILL PERFORMANCE AIDS (SPAS)

SPAS DESCRIPTION.

1. The SPAS Program expands the initial analysis and determination of operating, maintenance and training requirements for an equipment system. It combines the development of technical manuals and associated extension training materials into an integrated package to operate and maintain that system.

2. The technical manuals provide detailed procedures and highly illustrated instructions. This will help soldiers with minimum training to perform complex tasks with limited supervision.

3. The extension training material when used with the technical manuals, teaches selected skills needed to operate and maintain the equipment.

4. SPAS is an integral part of Integrated Logistics Support (ILS). As such, it is based on the Logistics Support Analysis (LSA) determinations and is integrated by and uses the Logistics Support Analysis Record (LSAR) as its primary data base.

ETM DEFINITION

Extension Training Materials are training lessons and administrative instructions which are designed to provide the NCO in a field environment with an equipment-specific training package.

This package is to be used as an integral part of the Job Training Package (JTP) to conduct on-the-job training. Packages are prepared for each equipment item by MOS at a particular level of maintenance. The lessons are specifically designed to utilize SPAS technical manuals and provide additional instruction to supplement the manuals only when required by the nature of the task. The initial training task list is developed as part of the Logistics Support Analysis using guidelines established by TRADOC PAM 350-30 (Interservice Procedures for Instructional Systems Development). The final list of tasks requiring ETM is developed based on criteria provided in the (revised) MIL-M-63040 ETM specification, and approval by proponent TRADOC schools. The training materials are designed to build upon minimum prerequisite skills that have been acquired through formal school training. ETM should not be considered a complete training course for the MOS and does not replace formal school training. ETM does provide complete resources for the NCO supervisor to insure that all assigned personnel can meet the standards of speed and accuracy required for the operation and maintenance of equipment assigned to the unit.

ETM DESCRIPTION

1. ETM is a training package prepared for a specific equipment item. It contains all of the instructions and materials necessary to support a supervised on-the-job-training (SOJT) program for a particular MOS and maintenance level.

2. Each ETM package contains two basic documents:

a. A Manager's Guide

b. A Student Guide

(1) The Manager's Guide provides the NCO with complete instructions and recordkeeping aids to conduct the program.

(2) The Student Guide provides general instructions concerning that ETM package and specific lesson applications for the Soldier, and also includes pre-tests and post-tests. Lessons may be in one of three modes of presentation:

a. *Printed Text*

b. Audiovisual (AV)

c. Audio-only (AO)

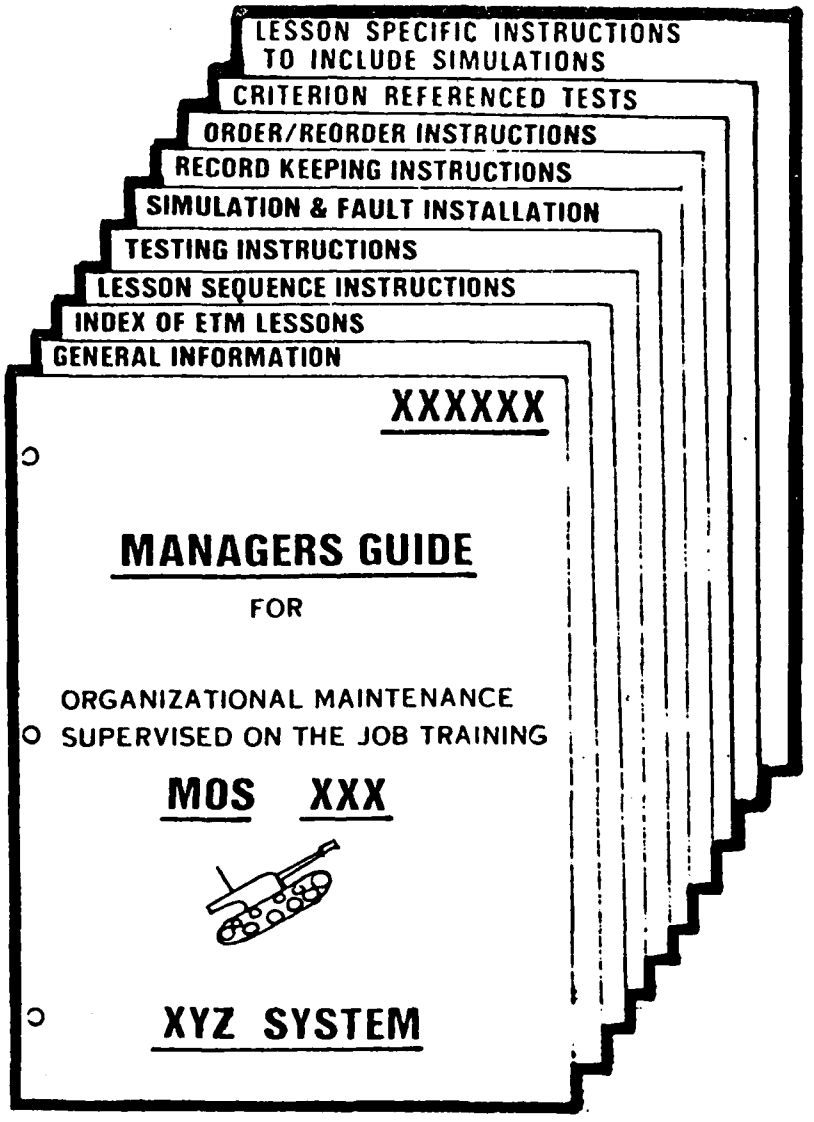
The printed medium is the preferred method of lesson presentation for reasons of both economy and ease of use in the field. When justified by training effectiveness considerations, the other modes may be used. The lessons are designed to permit the student to perform much of the lesson by himself. The NCO is involved at critical checkpoints throughout the lesson. The checkpoints are defined in the lesson instructions.



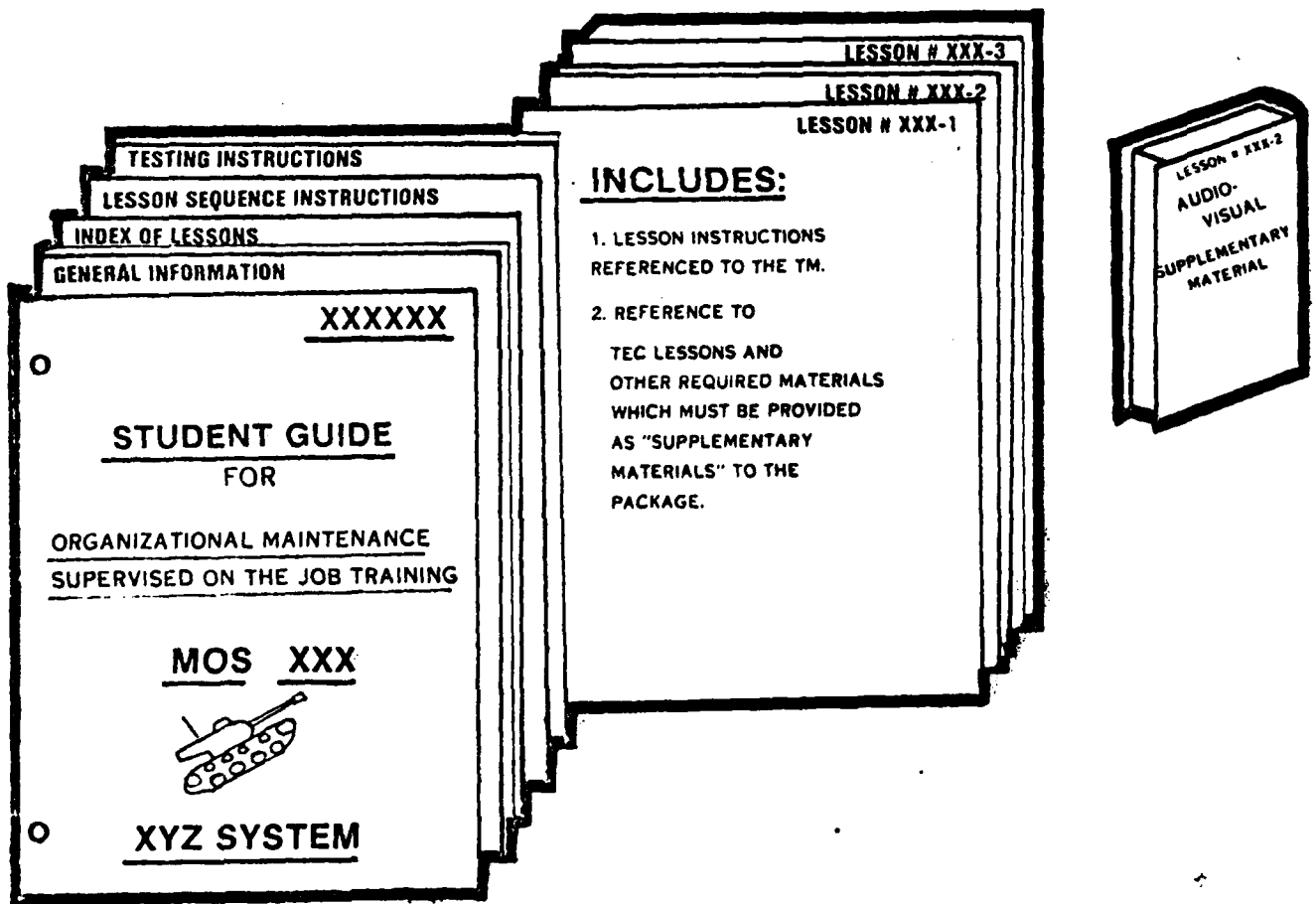
EXTENSION TRAINING MATERIAL (ETM)

- MANAGEMENT INSTRUCTIONS
- STUDENT INSTRUCTIONS
- TRAINING MATERIAL

SKILL PERFORMANCE AIDS



SKILL PERFORMANCE AIDS



ETM Scenario

1. The NCO, in concert with the Soldier, selects an ETM lesson. This selection will be based upon unit and individual needs and guided by the lesson sequence instructions.

2. The NCO has the Soldier read and become familiar with the Student Guide and basic technical manual.

3. The NCO then administers the lesson pre-test to the Soldier.

4. If the pre-test is passed, the NCO annotates a "GO" in his Course Record Sheet, and the lesson selection process is repeated.

5. If the pre-test is a failure, or "NO-GO", the NCO administers the lesson to the student. By virtue of its design, the NCO will not have to be present during the entire lesson, except at those points so stated in the lesson instructions.

6. After the Soldier has completed the lesson, the NCO administers the post-test.

7. If the post-test is passed, the NCO will indicate the "GO" in his Course Record Sheet and the pre-test, lessons and post-test procedure is repeated until the Soldier completes all of the lessons in that ETM package.

8. If a post-test is failed, then the NCO will administer remedial training according to the instructions in the lesson, which will include any TEC/supplementary materials suggested as additional training materials.

9. The NCO can now use the Course Record Sheet as a quick reference guide to identify those areas of weakness for future training needs.

LSA/LSAR SOURCE DATA FOR SPAS PROCESS

1. SOURCE DATA SUMMARY REPORTS AVAILABLE

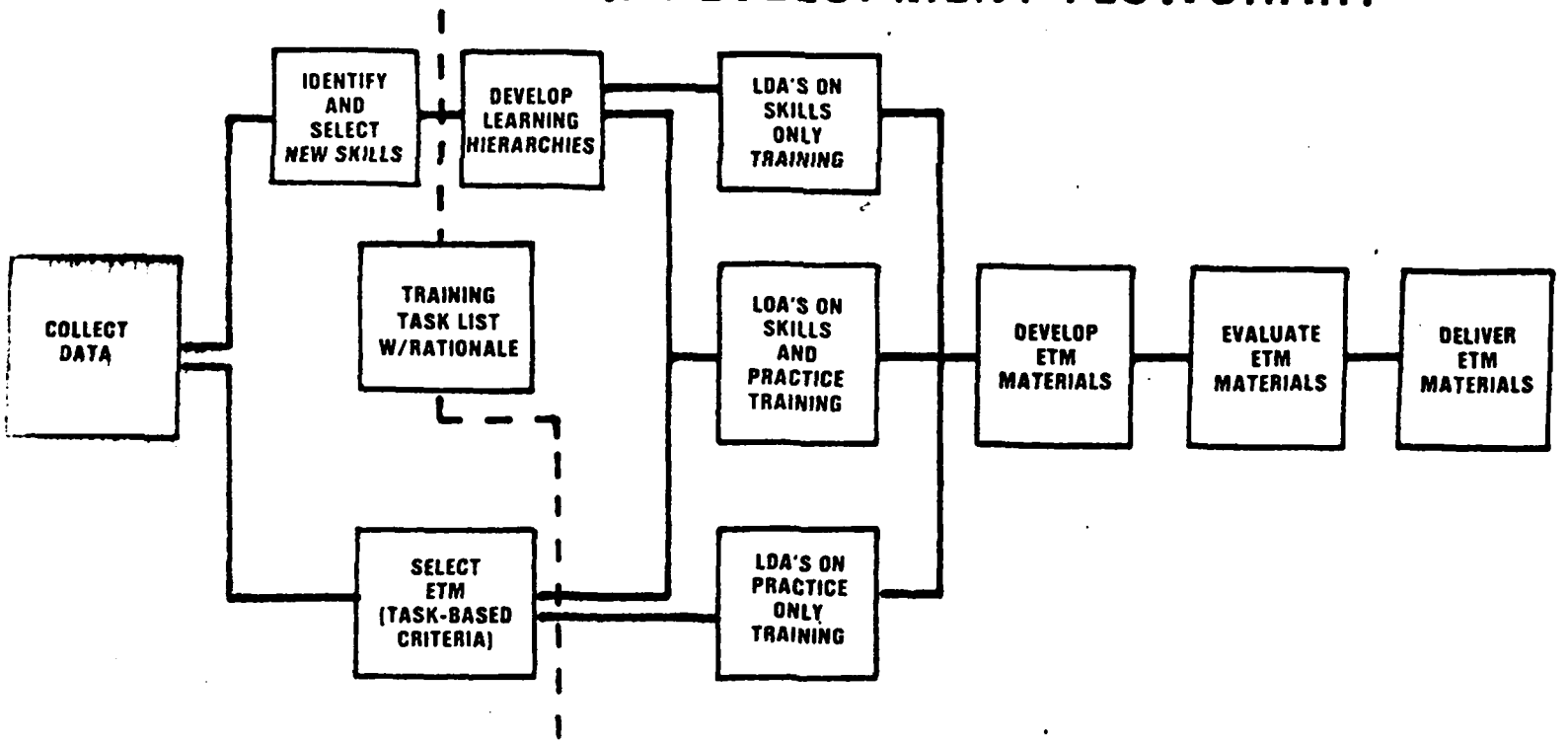
SPAS SOURCE DATA REQUIREMENT	LSAR SUMMARIES
A. PRELIMINARY MAINTENANCE ALLOCATION CHART	16
B. MAINTENANCE ALLOCATION CHART	04
C. EQUIPMENT BREAKDOWN	26 THRU 31
D. TOOL AND TEST EQUIPMENT	20
E. TASKS SELECTED FOR TRAINING	14
F. REPAIR PARTS & SPECIAL TOOLS LISTS	26. 27

2. SOURCE DATA SHEETS FOR TM & ETM DEVELOPMENT

SPAS SOURCE DATA REQUIREMENT	LSAR SHEETS
A. OPERATOR AND MAINTENANCE TASKS	C. D
B. FAILURE SYMPTOM ANALYSIS	B
C. TROUBLESHOOTING DATA	C. D
D. FUNCTIONAL DESCRIPTION DATA	B (CARD B07)
E. TASK ANALYSIS	C. D
F. SKILLS DATA	D. G

SKILL PERFORMANCE AIDS

PROPOSED ETM DEVELOPMENT FLOWCHART



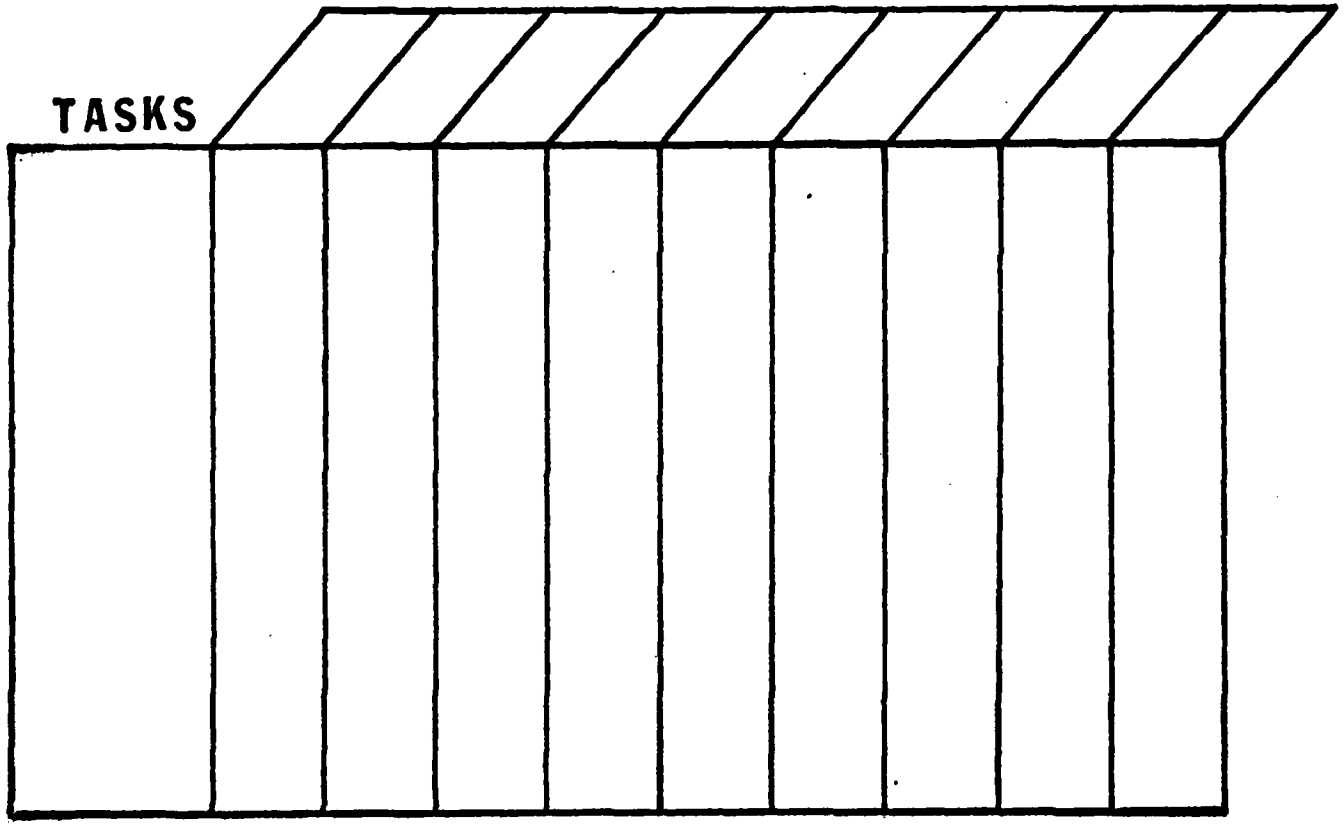
SKILL PERFORMANCE AIDS

ETM SELECTION MATRIX

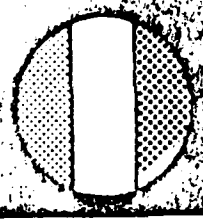
RECOMMENDED LIST OF TASKS FOR TRAINING (FROM FEA/LSA)	SELECTION CRITERIA: SPEED — MISSION	SPEED — HARDWARE	ACCURACY — CONSEQUENCE OF INADEQUATE PERFORMANCE	ACCURACY — PSYCHOMOTOR REQUIREMENTS	ACCURACY — DISCRIMINATION REQUIREMENTS	ACCURACY — INHERENT COMPLEXITY	W/O MANUAL — TASK DELAY TOLERANCE	W/O MANUAL — OTHER CONSTRAINTS	RATIONALE — DETAIL JUSTIFICATION FOR TRAINING DECISION

SKILL PERFORMANCE AIDS

SKILLS AND KNOWLEDGES MATRIX



SPAS ACOR COURSE



LESSON DESIGN APPROACH FORMAT

I. LESSON TITLE
II. TASK(S) COVERED IN LESSON
III. OBJECTIVE
  A. TASK
  B. CONDITIONS
  C. STANDARDS
IV. CRITERION-REFERENCED TEST ITEMS
V. LESSON STRATEGY
  A. PRESENTATION MODE
  B. TASK TYPE
  C. TEST PLAN AND TEST MODE
  D. LEARNING ELEMENTS AND SEQUENCE
  E. RECOMMENDED MEDIUM
  F. SITE SELECTION
  G. LENGTH OF LESSON (ESTIMATED)
VI. LESSON SEQUENCE RELATIONSHIP
VII. OTHER
  A. LEARNING HIERARCHIES (FOR SKILLS ACQUISITION TASKS)
  B. SUPPORT MATERIALS AVAILABLE (TEC LESSONS, ETC., POTENTIALLY AVAILABLE FOR INCORPORATION).

JOB AND TASK A

ITRADC

Task Number: 1

Task Title:

1. Task Data:

A. Title: Where a lesson covers only one task, the task title will be found in III A of the LDA. (See NOTE 1.)

B. Number:

C. Condition: Found in III B of LDA. (See NOTE 1.)

D. Standard: Found in III C of LDA. (See NOTE 1.)

E. Job Title: Not covered.

F. Supervisory Job? (Yes) (No) Generally only covered in crew/team tasks.

G. Supervision Required to Perform this Task? (Yes) (No)
Comments Found on "D" Sheet.

H. ARTEP Derivative? (Yes) (No)
Comments Not covered.

I. SQT Candidate? (Yes) (No)
Comments Not covered.

J. MQS Candidate? (Yes) (No)
Comments Not covered.

K. Common Task? (Yes) (No) Proponent Not covered.

L. Shared Task? (Yes) (No) Proponent Not covered.

7. Job Aid Recommended? (Yes) (No)
Comments See V E and VII B of LDA.

8. Hazard Potential: If included as rationale for training, found in III B and C and/or in V D.

A. Training: Safety Hazard codes are on "D" sheet.

B. Job Performance: Same as above. Safety Hazard codes are on "D" sheet.

9. Safety Certification Requirements:
Not covered.

11. Instructional Site Recommendation: See V F of LDA and/or LSAR 14.

A. Analyst's Recommendation: Job Institution Unknown

B. Site Selection Board: Job Institution Unknown

C. [illegible]

NALYSIS WORKSHEET

Reg 351-4)

2. Task Usage:

☐ A. Active Component

☐ B. Reserve Compo. ent
☐ NG
☐ Reserve

Comments *Not covered.*

☐ C. Mobilization

Comments *Not covered.*

3. Type Analysis: ☐ New ☐ Revision

If Revision, Why? *Usually new.*

4. Admin Data: *Not covered.* (To be completed by school representative.)

A. Date Initiated

B. Completion Date

C. Analyst's Name
Rank Specialty
Office File Symbol
Telephone Number

D. Interschool Coordinate Comments

5. Survey Data/Field Feedback: *Not covered.*

A. AOSP. Date Inventory Submitted to MODD
MODD Coordination Comments

Date Report Received

B. Field/In-House. Coordination Comments

C. Miscellaneous Feedback and Sources. Comments

6. References:

A. Used in Analysis *MIL-M-63040*
TRADOC PAM 350-30 PHASE I, pp 118-130

B. Required to Accomplish Task *See III B and VII B of LDA.*

7. Current Training Materials Identified and Those Affected by Job/Task Revision (to include title, media, numbe
type devices or aids, etc.). *The lesson itself is the training material.*

12. Equipment Used with to Perform Task:

Covered in III B.

14. Task Selection Data (Fill in only those used): *(Additional task selection data provided to schools by contractor as ETM training task list with rationale.)*

A. 8/4 Factor Data: *Covered in LSA Report 14.*

(1) Percent Performing _____

(2) Time between Training and Task Performance _____

(3) Frequency of Performance _____

(4) Time Spent Performing Task _____

(5) Consequences of Inadequate Performance

_____

(6) Probability of Inadequate Performance

_____

(7) Task Delay Tolerance _____

(8) Task Difficulty _____

B. Training Emphasis Data:

_____

C. DIF Data:

_____

_____

D. Peacetime/Wartime Data:

_____

_____

E. Other:

_____

_____

15. Miscellaneous Data/Comments: *Found in V and VII of LDA.*

13. Enabling Skills and Knowledges Required (Functional or Specific) for Task (Attach additional sheet, if required)

A. Baseline Entry Level: *Covered in Target Audience Description. Within the ETM package lesson relationshups are covered in VI of LDA.*

B. Skill Hierarchy: *When applicable, found in VII A of LDA.*

Item 16. Performance Elements/steps.

Found on "D" sheet or in the referenced TM. Learining elements which may or may not be the same are found in paragraph Vd of LDA.

Item 17. CUES.

Found in the referenced TM.

Item 18. Conditions.

Found in the referenced TM.

Item 19. Standards.

Some are found in the referenced TM or covered in lesson material. Those elements or steps covered by the CRT will be found in paragraph IV of LDA.

Item 20. Skills and Knowledges.

Found in Vd and VIa (if applicable) of LDA.

Item 21. JPM Data.

Found in V of LDA.

NOTE 1:

Some lessons cover a group of similar task using the most representative task as the basis of the lesson. Other lessons will cover a group of tasks which form a larger task (procedure). Each task in the procedure will be covered in a separate part of the lesson. For example, "Perform preventative maintenance checks" includes checking the various fluid levels, inspecting items such as track suspension, adjusting track supension and etc. Each of these are smaller separate tasks. If a separate task analysis is required for each smaller task the task, condition and standard are found in paragraph Vd of the LDA.

ITHADC

Task Number:

Task Title:

1. Task Data:

A. Title: D1 SHEET CARD D#4 (SEE DED 184)

B. Number:

C. Condition: SOME IDENTIFIED ON D1 SHEET CARD D#9 (SEE DED 182.1) REMAINDER ON D SHEET CARD D#5 (SEE DED 163) SEE ITEM 12.

D. Standard: SOME IDENTIFIED ON D1 SHEET CARD D#9 (SEE DED 119.1) REMAINDER OF D SHEET CARD D#5 (SEE DED 163) & E SHEET CARD E#1 DED 181

E. Job Title:

F. Supervisory Job? (Yes) (No) C SHEET CARD C#4 (SEE DED 169 D SHEET CARD D#6A (SEE DED 170)

G. Supervision Required to Perform this Task? (Yes) (No)
Comments D1 SHEET CARD D#9 (SEE DED 119.1) Q SHEET CARD C#3 (SEE DED 169, 170, 171)

H. ARTEP Derivative? (Yes) (No)
Comments

I. SQT Candidate? (Yes) (No)
Comments

J. MQS Candidate? (Yes) (No)
Comments

K. Common Task? (Yes) (No) Proponent

L. Shared Task? (Yes) (No) Proponent

7. Job Aid Recommended? (Yes) (No)
Comments

8. Hazard Potential: D1 SHEET CARD D#4 (SEE DED 157)

A. Training: E SHEET CARD E#3 (SEE DED 208) ALSO D SHEET CARD D#5 (DED 163)

B. Job Performance:

9. Safety Certification Requirements:

11. Instructional Site Recommendation: D1 SHEET CARD D#9 SEE DED 201.3 201.2 201.1

A. Analyst's Recommendation: ☐ Job ☐ Institution ☐ Unknown

B. Site Selection Board: ☐ Job ☐ Institution ☐ Unknown

C. Final Recommendation: ☐ Job 10-20 ☐ Institution (Form

A·LYSIS WORKSHEET

351-41

. Task Usage:

☐ A. Active Component

☐ B. Reserve Component
- ☐ NG
- ☐ Reserve

Comments _____

☐ C. Mobilization

Comments _____

3. Type Analysis: ☐ New ☐ Revision

If Revision, Why? _____

4. Admin Data:

A. Date Initiated _____

B. Completion Date _____

C. Analyst's Name _____
Rank _____ Specialty _____
Office File Symbol _____
Telephone Number _____

D. Interschool Coordinate Comments _____

Survey Data/Field Feedback:

A. AOSP. Date Inventory Submitted to MODD _____
MODD Coordination Comments _____

Date Report Received _____

B. Field/In-House. Coordination Comments _____

C. Miscellaneous Feedback and Sources. Comments _____

References:

A. Used in Analysis C, D, D1, E, G SHEETS OF LSA

B. Required to Accomplish Task EQUIPMENT TM

Current Training Materials Identified and Those Affected by Job/Task Revision (to include title, media, number, type devices or aids, etc.).

D SHEET CARD D05
(SEE DED 163)

E SHEET CARD E09, E10
(SEE DED 181, 180)

14. Task Selection Data (Fill in only those used):

D1 SHEET CARD D09
(SEE DED 201.2)

A. 8/4 Factor Data:

(1) Percent Performing _____

(2) Time between Training and Task Performance _____

(3) Frequency of Performance _____

(4) Time Spent Performing Task _____

(5) Consequences of Inadequate Performance

_____

(6) Probability of Inadequate Performance

_____

(7) Task Delay Tolerance _____

(8) Task Difficulty _____

B. Training Emphasis Data:

_____

C. DIF Data:

_____

_____

D. Peacetime/Wartime Data:

_____

_____

E. Other:

_____

_____

15. Miscellaneous Data/Comments:

TNG MATERIAL REQUIRED : E SHEET CARD E09, E10
(SEE DED 180, 181)

TRADOC FORM Jun 79 550 PREVIOUS EDITION MAY BE USED UNTIL EXHAUSTED

Specify skills and knowledges required (Functional or Specific) for Task (Attach additional sheet, if required).

A. Baseline Entry Level: TA DESCRIPTION

B. Skill Hierarchy: 1

ADDITIONAL SKILL REQUIREMENT:
E SHEET CARD E11 (SEE DED 002)
G SHEET CARD G12 - G09
(SEE DED 029, 170, 010, 159, 097, 059, 224
225, 182, 002, 123, 031, 065 AND 003)
OTHER SKILLS : SEE D SHEET CARD D05
(DED 163)

(SEE DED 163)

ITEM 17 CUES : SAME AS ABOVE

ITEM 18 CONDITIONS : SAME AS ABOVE PLUS D1 SHEET CARD D #9 (SEE DED 182.1)

ITEM 19 STANDARDS : SAME AS 17 ABOVE PLUS D1 SHEET CARD D#9 (SEE DED 119.1)

ITEM 20 SKILLS & KNOWLEDGES : TA DESCRIPTION AND DERIVATION FROM D SHEET CARD D#5 (DED 163) AND G SHEET

ITEM 21 NOT AVAILABLE

BRIEF FOR CHIEFS OF ANALYSIS SEMINAR

15 JANUARY 1980

A. Project Purpose.

1. Study existing I&E FEA documents.

2. Propose method of interface.

B. Why the Interface is Necessary.

1. No current formal prescription of "how to."

2. Consequences of no interface:

a. Absence of individual tasks to support collective task.
b. Adverse effect on unit to carry out mission.

3. What interface accomplishes.

a. Focus attention on disjunctions and allow for remedy.
b. Focus attention on individual tasks not essential to collective proficiency.
c. Focus on possible irrelevant individual tasks.

4. What the Analysts need to know:

a. Individual should know the collective tasks to which the job specialty in question is expected to contribute, and how.
b. Collective needs to know whether all collective tasks are supported by SM tasks.

5. Therefore an orderly integration method must be specified.

C. The Analysis.

1. Two modified algorithms:

a. Collective from 310-8 (draft).
b. Individual from 351-4(T).

2. Shown separately and include:

a. Function blocks for decisions.
b. Products to be completed.

3. Flow

a. Lateral (main).
(1) Direction
(2) Major sequence of decisions and products
b. Vertical (subsidiary) identifies decisions and products resulting from:
(1) No decision.
(2) Non-achievement of main flow function.

D. Procedures for Integrating Front End Analysis.

1. As Army moved to full implementation of the ISD model:

a. Not practical to start all training development anew.
b. Or at the beginning.

2. Urgent requirements for many different training tools and procedures (all at once) precluded a logical order.

3. In a completely systematic approach:

a. Organizational missions and collective tasks carefully defined prior to job and task analysis for individual job specialties.
b. Collective requirements would have had primacy.
c. Collective requirements would have been a major determinant of the supportive individual proficiencies.

4. Because of TRADOC priority for parallel production, SMs and SQT FEA was well on its way prior to collective FEA.

a. This non linear developmental approach reflects real world and though theoretically undesirable, it is, from a practical perspective, unavoidable.
b. No realistic opportunity to make a major change to this approach.
c. Problem compounded by constant state of change in the key variables:
(1) Doctrine.
(2) Threat.
(3) Equipment.
(4) TOE.
(5) Etc.
d. Therefore not practical to develop a fixed set of procedures to insure proper integration of IFEA and CFEA.

5. Because of the difficulty of regulating the process:

a. Best approach is to establish a flexible, non-mandatory set of guidelines.

b. Will serve three purposes:

(1) The guidelines themselves should convey the importance of the integration.

(2) Take into account the various sequential stages of FEA and point out milestones within the stages where integration actions are desirable and what these actions are.

(3) A means by which the management can know that, at least, minimally adequate integration has occurred.

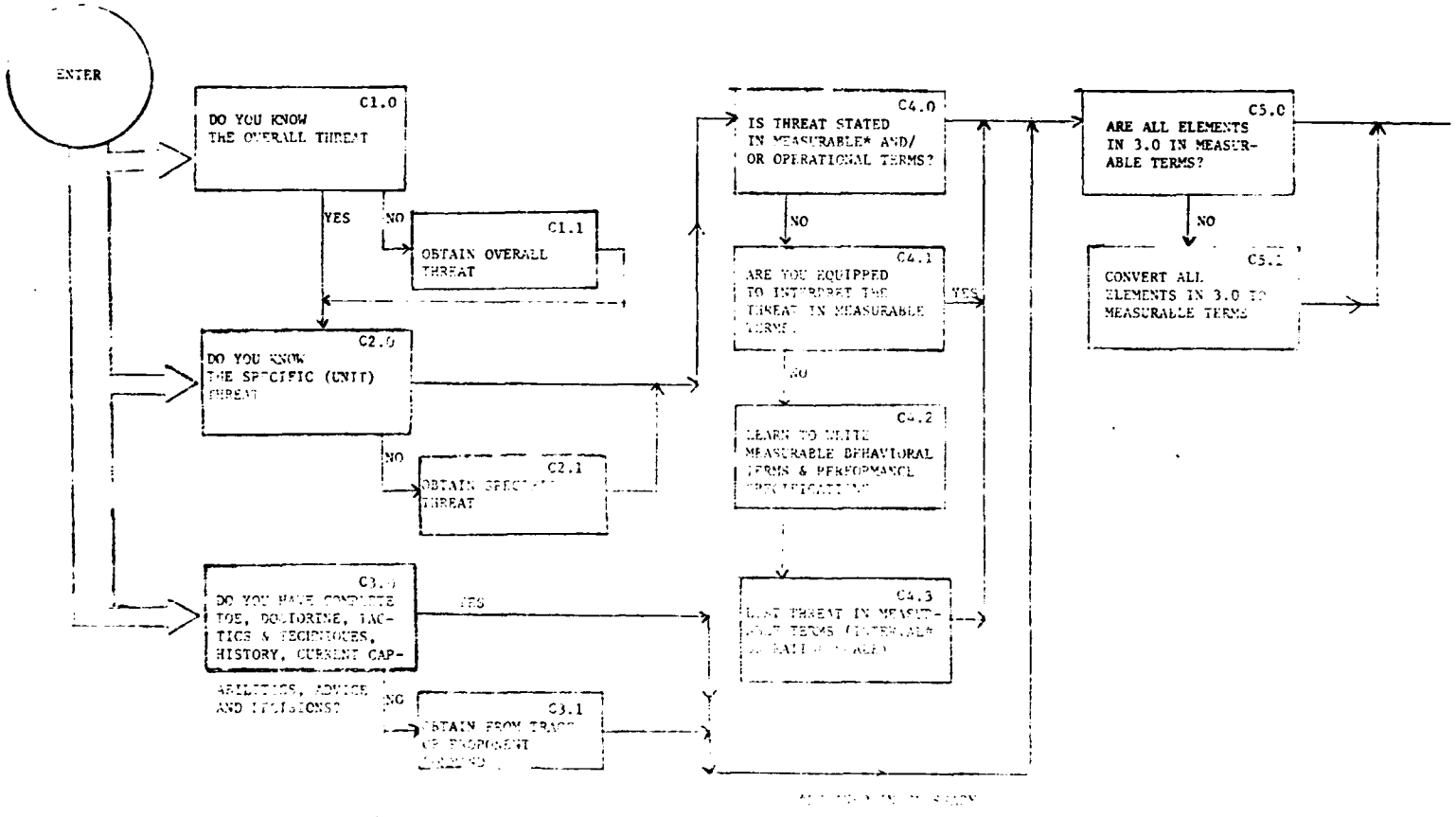
E. Integration Sequence Variations.

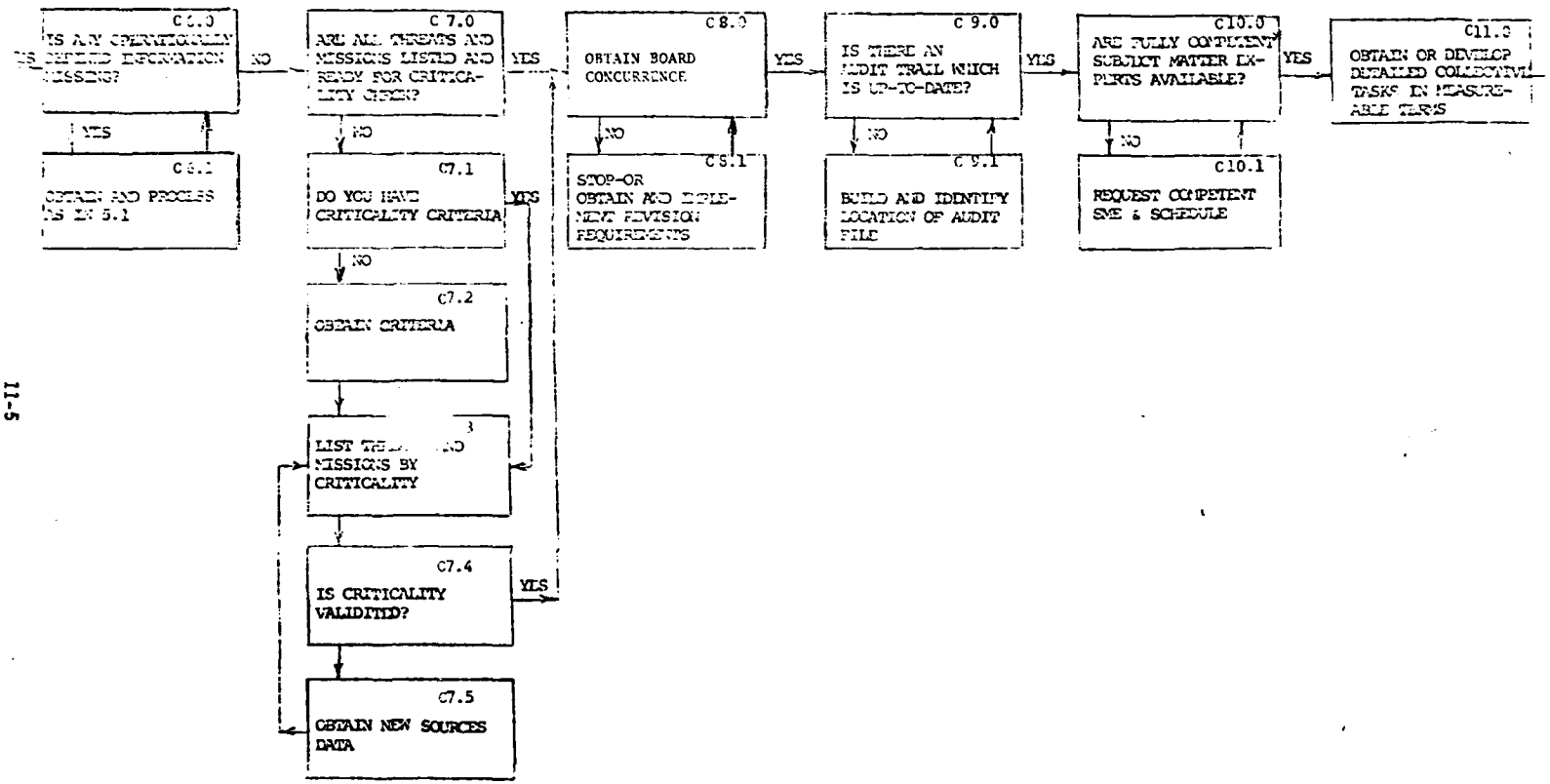
1. Many are possible.

2. Four variations are given:

a. CFEA completed prior to IFEA (viewgraph).
b. IFEA completed prior to CFEA (viewgraph).
c. CFEA/IFEA previously completed but in need of revision (viewgraph).
d. CFEA/IFEA - Task Force Approach (viewgraph).

- COLLECTIVE TRAINING ANALYSIS ALGORITHM

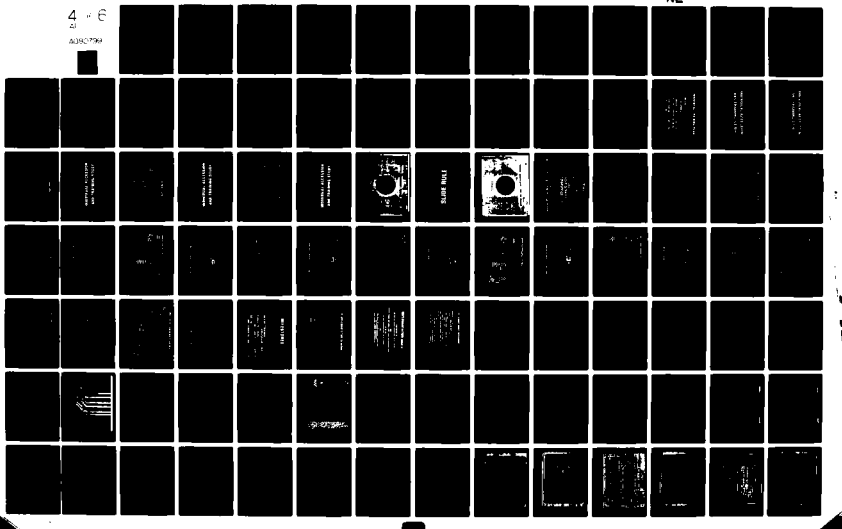


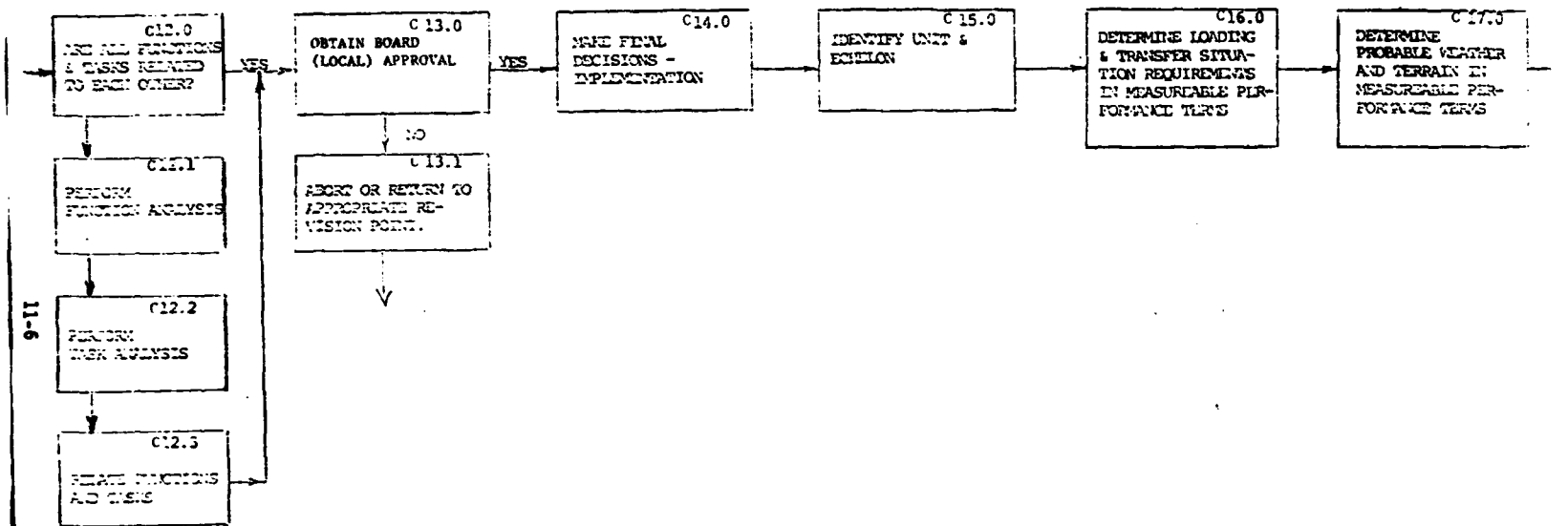

C 6.0
IS ANY OPERATIONALLY
ESSENTIAL INFORMATION
MISSING?
NO
YES
C 6.1
OBTAIN AND PROCESS
ITS IN 5.1
C 7.0
ARE ALL THREATS AND
MISSIONS LISTED AND
READY FOR CRITICA-
LITY USE?
YES
NO
C7.1
DO YOU HAVE
CRITICALITY CRITERIA
YES
NO
C7.2
OBTAIN CRITERIA
LIST THE
MISSIONS BY
CRITICALITY
C7.4
IS CRITICALITY
VALIDITTD?
YES
C7.5
OBTAIN NEW SOURCES
DATA
C 8.0
OBTAIN BOARD
CONCURRENCE
YES
NO
C8.1
STOP-OR
OBTAIN AND IMPLE-
MENT REVISION
REQUIREMENTS
C 9.0
IS THERE AN
AUDIT TRAIL WHICH
IS UP-TO-DATE?
YES
NO
C 9.1
BUILD AND IDENTIFY
LOCATION OF AUDIT
FILE
C10.0
ARE FULLY COMPETENT
SUBJECT MATTER EX-
PERTS AVAILABLE?
YES
NO
C10.1
REQUEST COMPETENT
SME & SCHEDULE
C11.0
OBTAIN OR DEVELOP
DETAILED COLLECTIVE
TASKS IN MEASURE-
ABLE TERMS

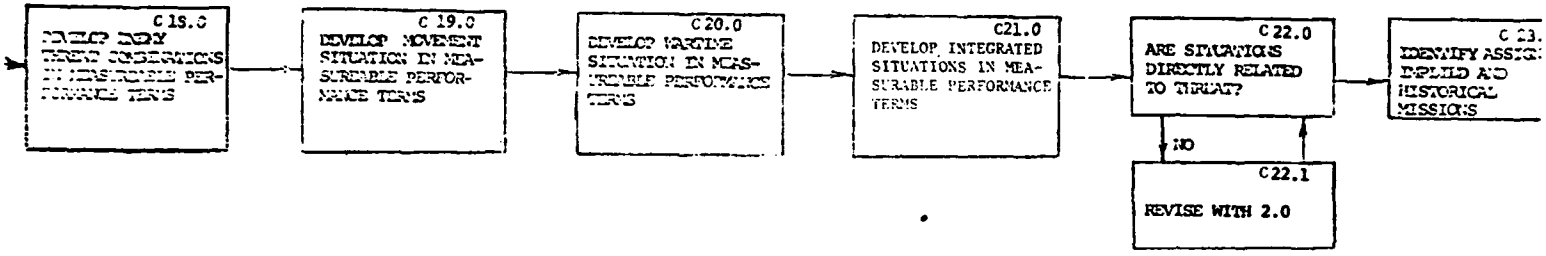
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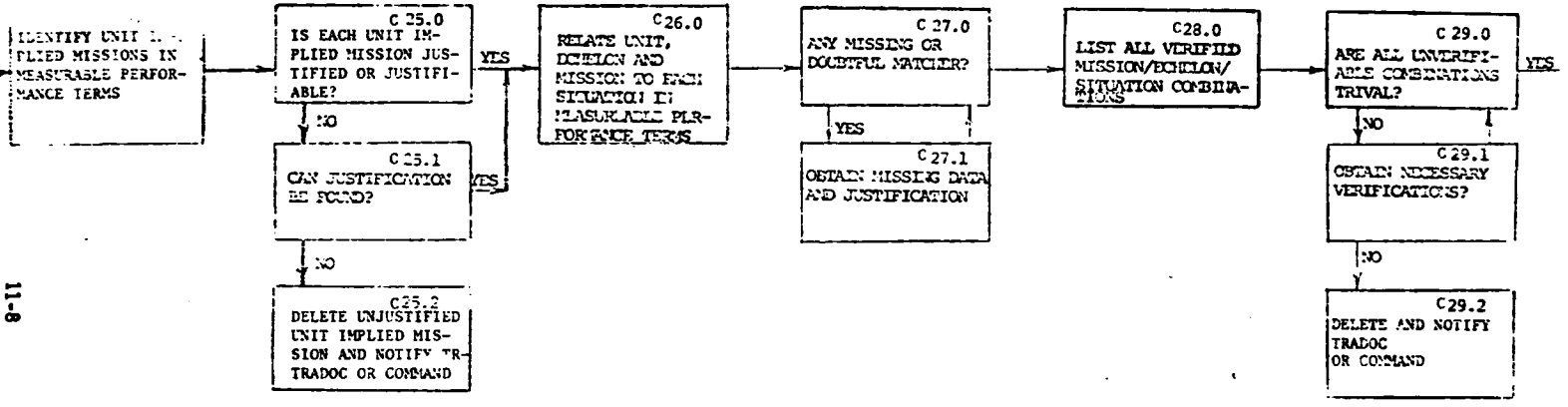
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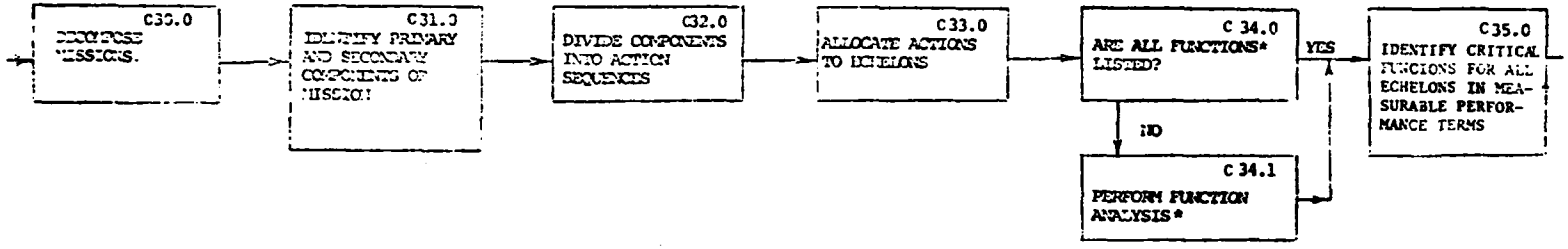
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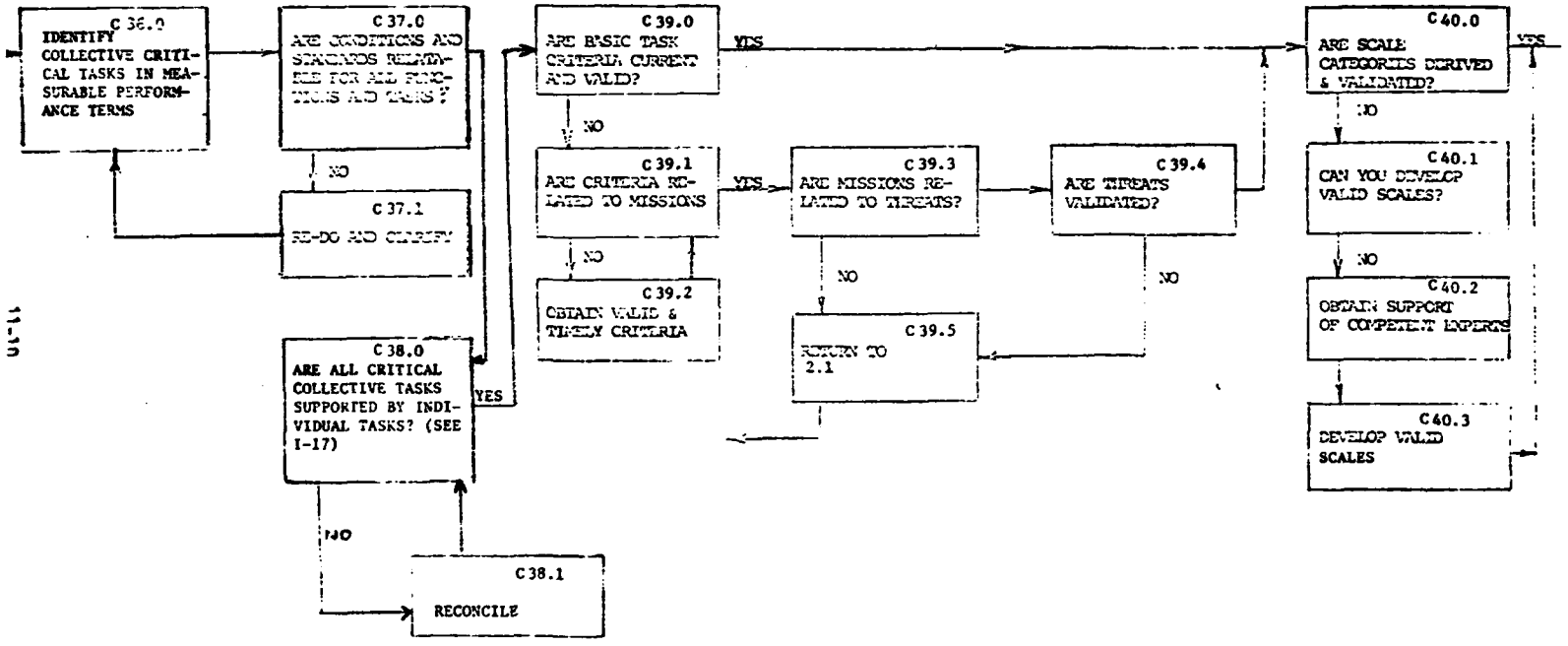


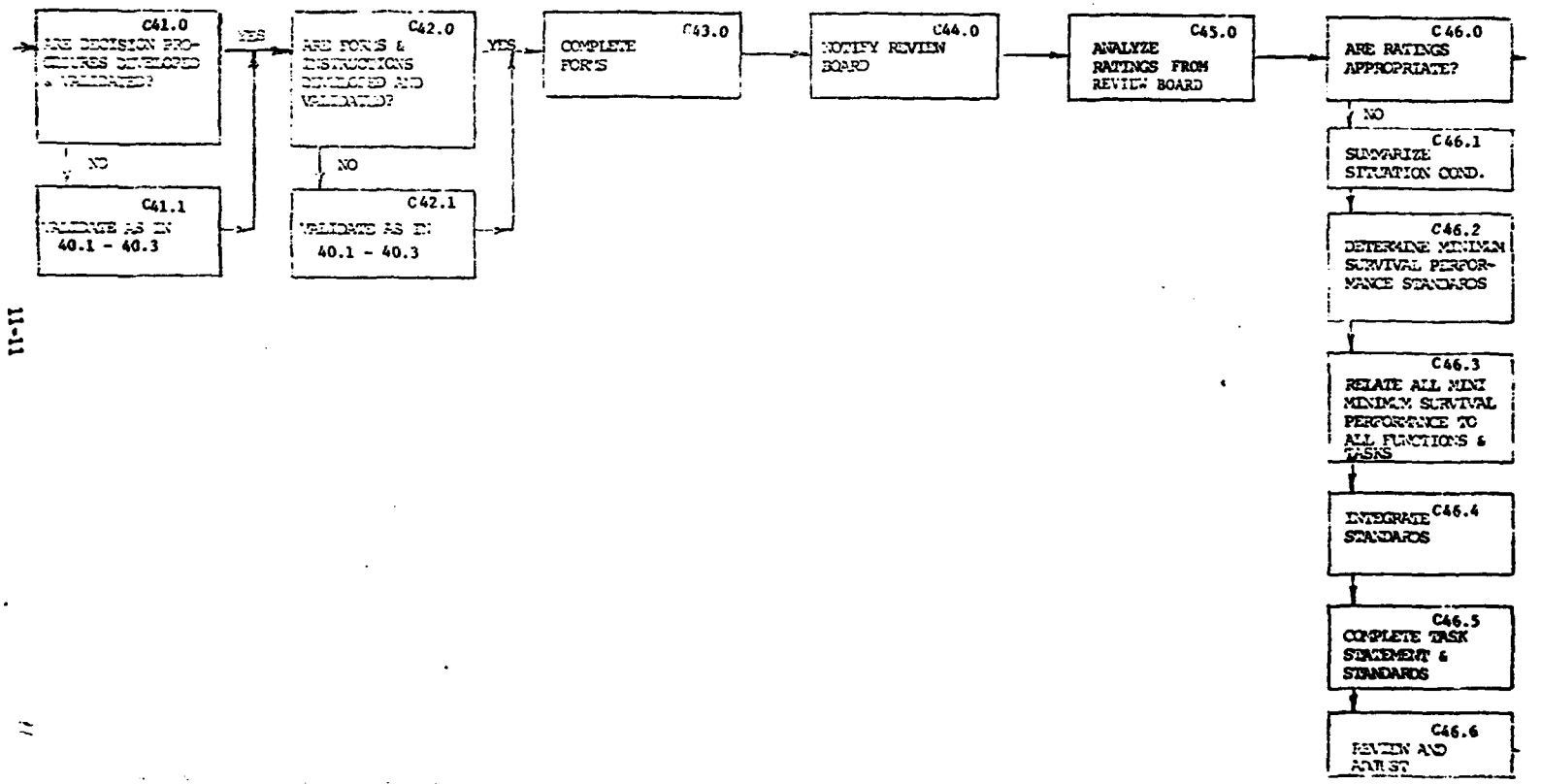

C12.0
ARE ALL FUNCTIONS & TASKS RELATED TO EACH OTHER?
YES
C 13.0
OBTAIN BOARD (LOCAL) APPROVAL
YES
C14.0
MAKE FINAL DECISIONS - IMPLEMENTATION
C 15.0
IDENTIFY UNIT & ECHELON
C16.0
DETERMINE LOADING & TRANSFER SITUATION REQUIREMENTS IN MEASURABLE PERFORMANCE TERMS
C 17.0
DETERMINE PROBABLE WEATHER AND TERRAIN IN MEASURABLE PERFORMANCE TERMS
NO
C 13.1
ABORT OR RETURN TO APPROPRIATE REVISION POINT.
C12.1
PERFORM FUNCTION ANALYSIS
C12.2
PERFORM TASK ANALYSIS
C12.3
RELATE FUNCTIONS AND TASKS

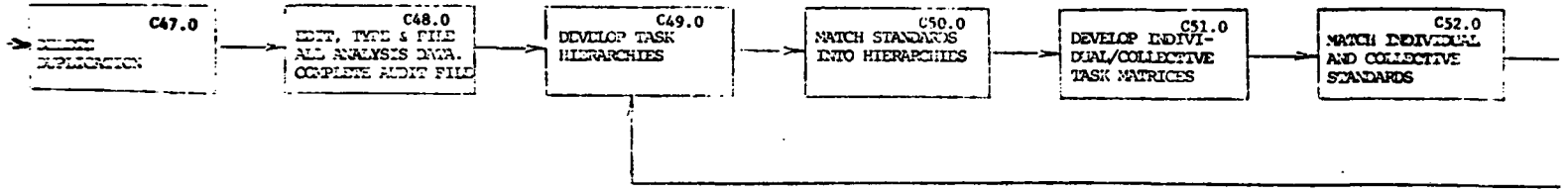

C 18.0
DEVELOP ENEMY
TERMS
IN MEASURABLE PER-
FORMANCE TERMS
C 19.0
DEVELOP MOVEMENT
SITUATION IN MEA-
SURABLE PERFOR-
MANCE TERMS
C 20.0
DEVELOP WARTIME
SITUATION IN MEAS-
URABLE PERFORMANCE
TERMS
C21.0
DEVELOP INTEGRATED
SITUATIONS IN MEA-
SURABLE PERFORMANCE
TERMS
C 22.0
ARE SITUATIONS
DIRECTLY RELATED
TO THREAT?
NO
C22.1
REVISE WITH 2.0
C 23.
IDENTIFY ASSIG
EXPLIED AND
HISTORICAL
MISSIONS

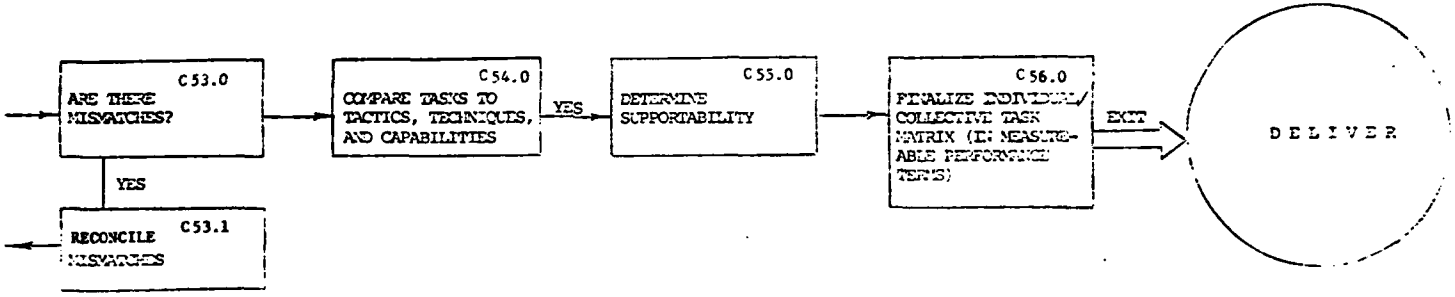

IDENTIFY UNIT IMPLIED MISSIONS IN MEASURABLE PERFORMANCE TERMS
C 25.0
IS EACH UNIT IMPLIED MISSION JUSTIFIED OR JUSTIFIABLE?
YES
NO
C 25.1
CAN JUSTIFICATION BE FOUND?
YES
NO
C25.2
DELETE UNJUSTIFIED UNIT IMPLIED MISSION AND NOTIFY TRADOC OR COMMAND
C26.0
RELATE UNIT, ECHELON AND MISSION TO EACH SITUATION IN MEASURABLE PERFORMANCE TERMS
C 27.0
ANY MISSING OR DOUBTFUL MATCHES?
YES
C 27.1
OBTAIN MISSING DATA AND JUSTIFICATION
C28.0
LIST ALL VERIFIED MISSION/ECHELON/SITUATION COMBINATIONS
C 29.0
ARE ALL UNVERIFIABLE COMBINATIONS TRIVAL?
YES
NO
C 29.1
OBTAIN NECESSARY VERIFICATIONS?
NO
C29.2
DELETE AND NOTIFY TRADOC OR COMMAND


C30.0
C31.0
IDENTIFY PRIMARY AND SECONDARY COMPONENTS OF
C32.0
DIVIDE COMPONENTS INTO ACTION SEQUENCES
C33.0
ALLOCATE ACTIONS TO ECHELONS
C 34.0
ARE ALL FUNCTIONS* LISTED?
YES
NO
C 34.1
PERFORM FUNCTION ANALYSIS*
C35.0
IDENTIFY CRITICAL FUNCTIONS FOR ALL ECHELONS IN MEASURABLE PERFORMANCE TERMS

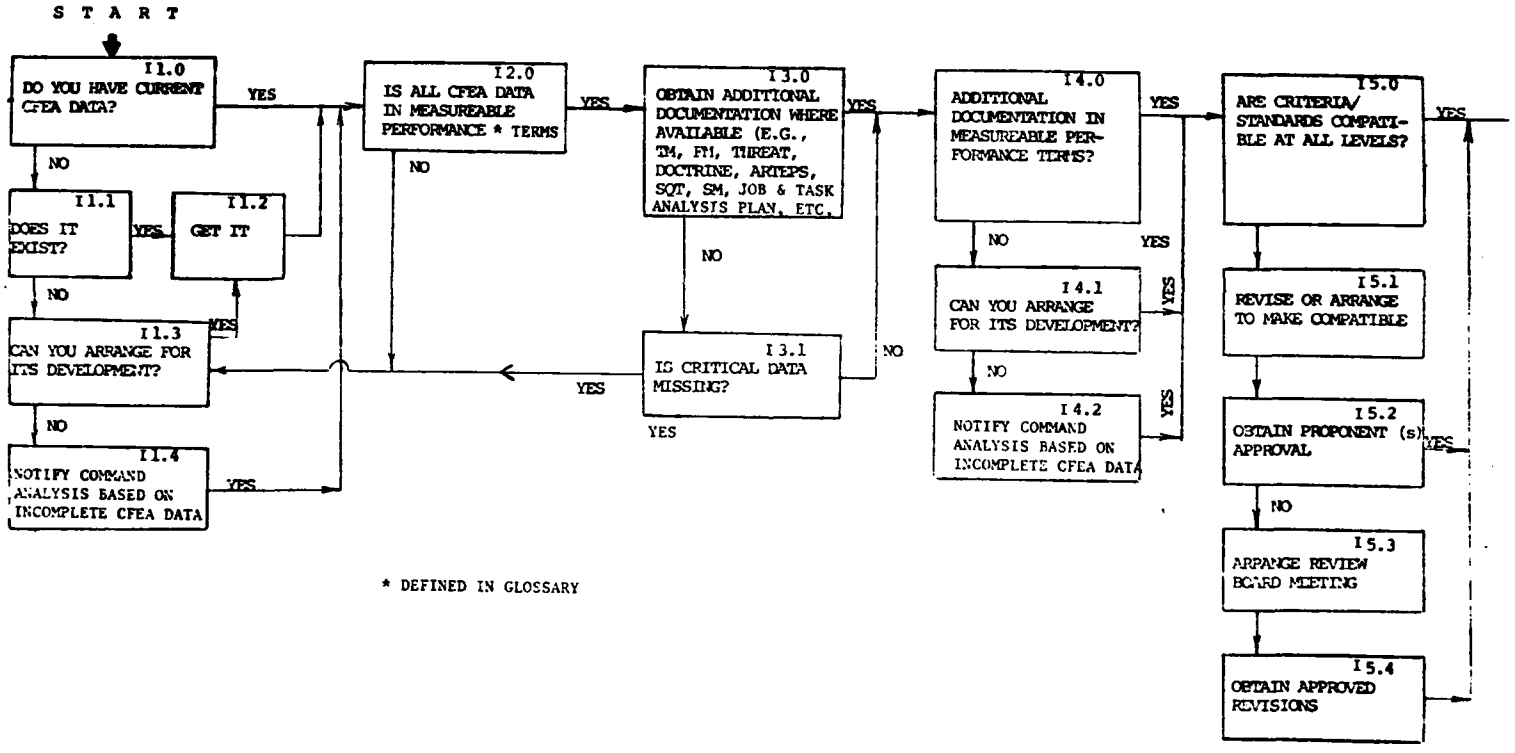

C 36.0
IDENTIFY COLLECTIVE CRITICAL TASKS IN MEASURABLE PERFORMANCE TERMS
C 37.0
ARE CONDITIONS AND STANDARDS RELATABLE FOR ALL FUNCTIONS AND TASKS?
NO
C 37.1
RE-DO AND CLARIFY
C 38.0
ARE ALL CRITICAL COLLECTIVE TASKS SUPPORTED BY INDIVIDUAL TASKS? (SEE I-17)
YES
NO
C 38.1
RECONCILE
C 39.0
ARE BASIC TASK CRITERIA CURRENT AND VALID?
YES
NO
C 39.1
ARE CRITERIA RELATED TO MISSIONS
YES
NO
C 39.2
OBTAIN VALID & TIMELY CRITERIA
C 39.3
ARE MISSIONS RELATED TO THREATS?
NO
C 39.4
ARE THREATS VALIDATED?
NO
C 39.5
RETURN TO 2.1
C 40.0
ARE SCALE CATEGORIES DERIVED & VALIDATED?
YES
NO
C 40.1
CAN YOU DEVELOP VALID SCALES?
NO
C 40.2
OBTAIN SUPPORT OF COMPETENT EXPERTS
C 40.3
DEVELOP VALID SCALES


C41.0
ARE DECISION PROCEDURES DEVELOPED & VALIDATED?
YES
NO
C41.1
VALIDATE AS IN 40.1 - 40.3
C42.0
ARE FORMS & INSTRUCTIONS DEVELOPED AND VALIDATED?
YES
NO
C42.1
VALIDATE AS IN 40.1 - 40.3
C43.0
COMPLETE FORMS
C44.0
NOTIFY REVIEW BOARD
C45.0
ANALYZE RATINGS FROM REVIEW BOARD
C46.0
ARE RATINGS APPROPRIATE?
NO
C46.1
SUMMARIZE SITUATION COND.
C46.2
DETERMINE MINIMUM SURVIVAL PERFORMANCE STANDARDS
C46.3
RELATE ALL MINIMUM SURVIVAL PERFORMANCE TO ALL FUNCTIONS & TASKS
C46.4
INTEGRATE STANDARDS
C46.5
COMPLETE TASK STATEMENT & STANDARDS
C46.6
REVIEW AND ADJUST

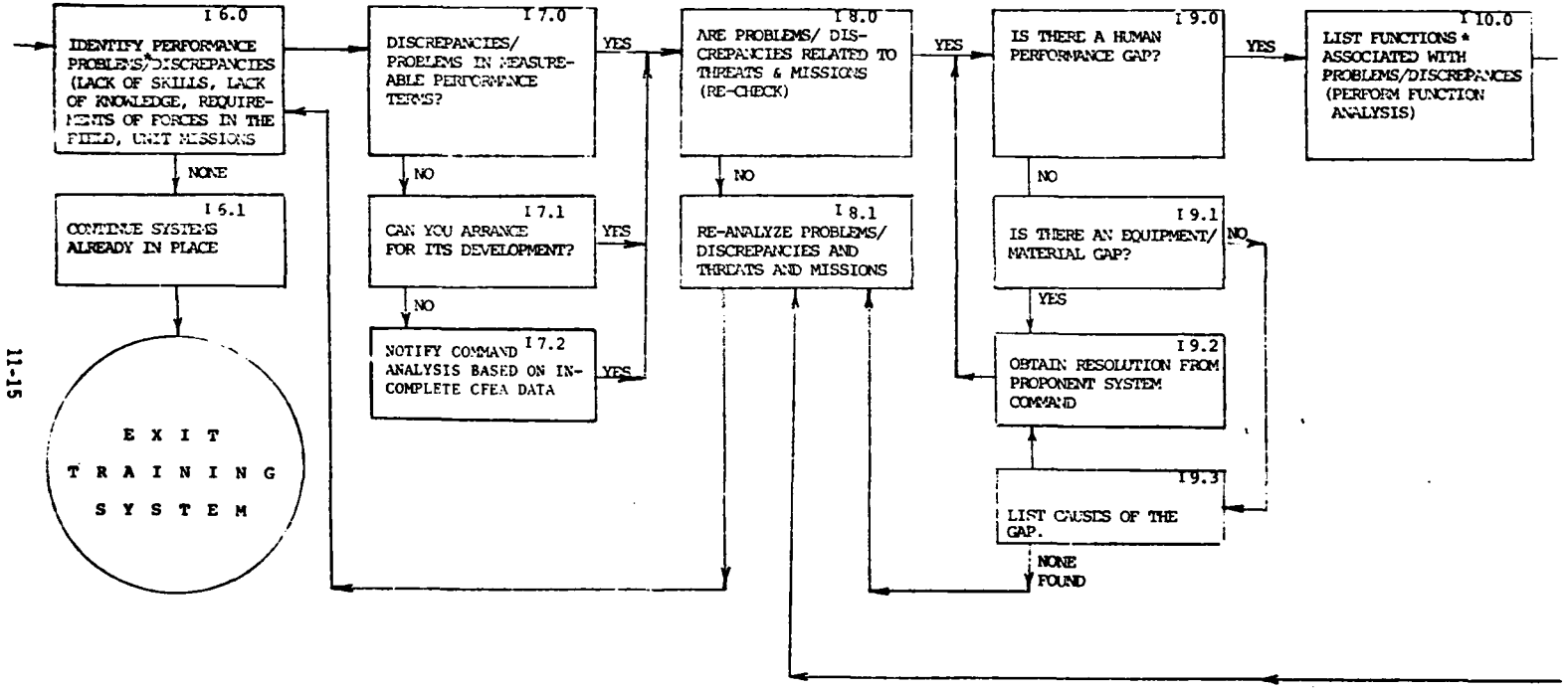

C47.0
APPLICATION
C48.0
EDIT, TYPE & FILE
ALL ANALYSIS DATA.
COMPLETE AUDIT FILE
C49.0
DEVELOP TASK
HIERARCHIES
C50.0
MATCH STANDARDS
INTO HIERARCHIES
C51.0
DEVELOP INDIVI-
DUAL/COLLECTIVE
TASK MATRICES
C52.0
MATCH INDIVIDUAL
AND COLLECTIVE
STANDARDS

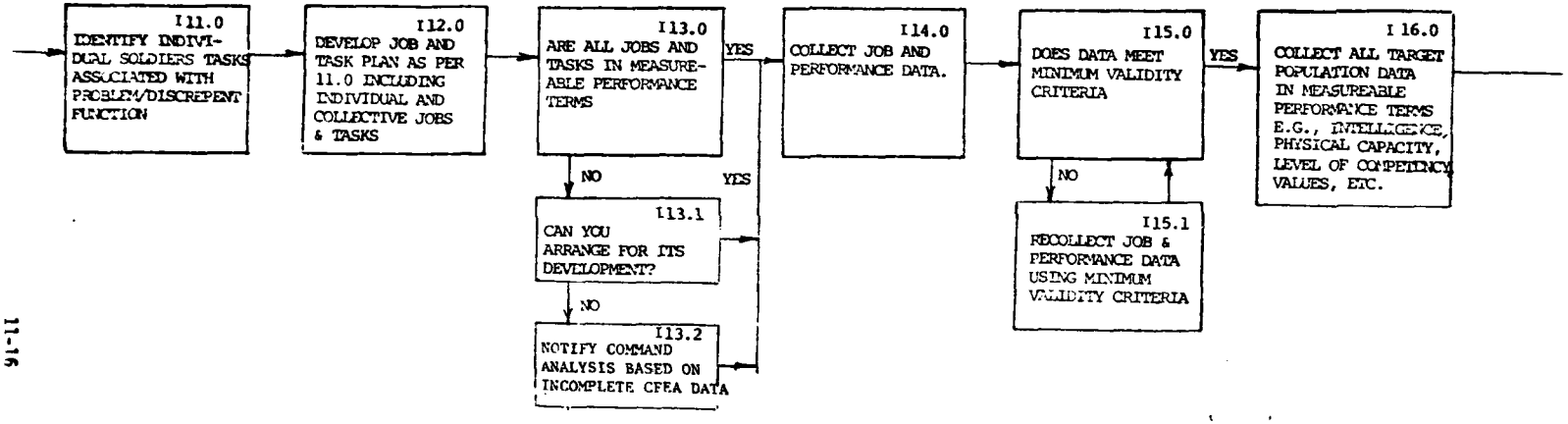

C53.0
ARE THERE MISMATCHES?
YES
C53.1
RECONCILE MISMATCHES
C54.0
COMPARE TASKS TO TACTICS, TECHNIQUES, AND CAPABILITIES
YES
C55.0
DETERMINE SUPPORTABILITY
C56.0
FINALIZE INDIVIDUAL/COLLECTIVE TASK MATRIX (I: MEASURE-ABLE PERFORMANCE TERMS)
EXIT
DELIVER

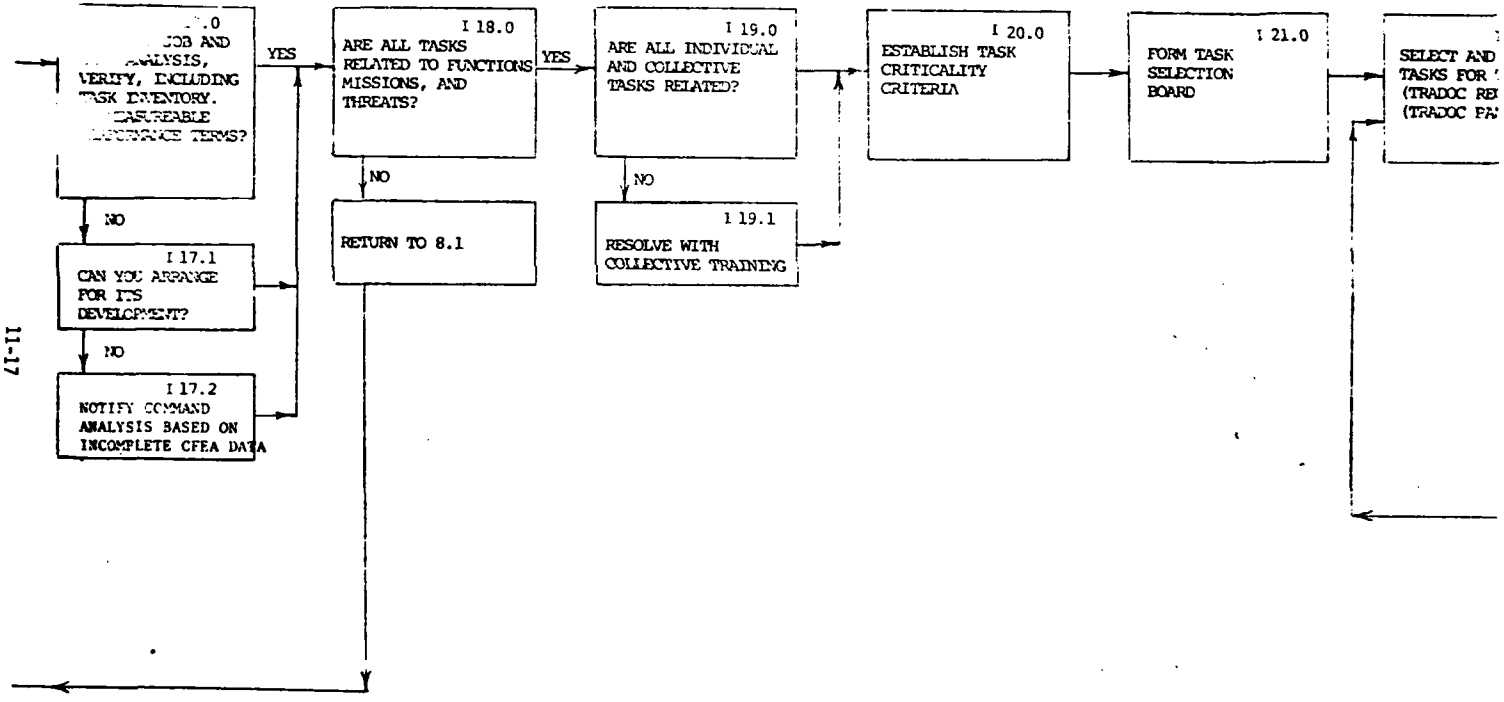
- INDIVIDUAL TRAINING ANALYSIS ALGORITHM

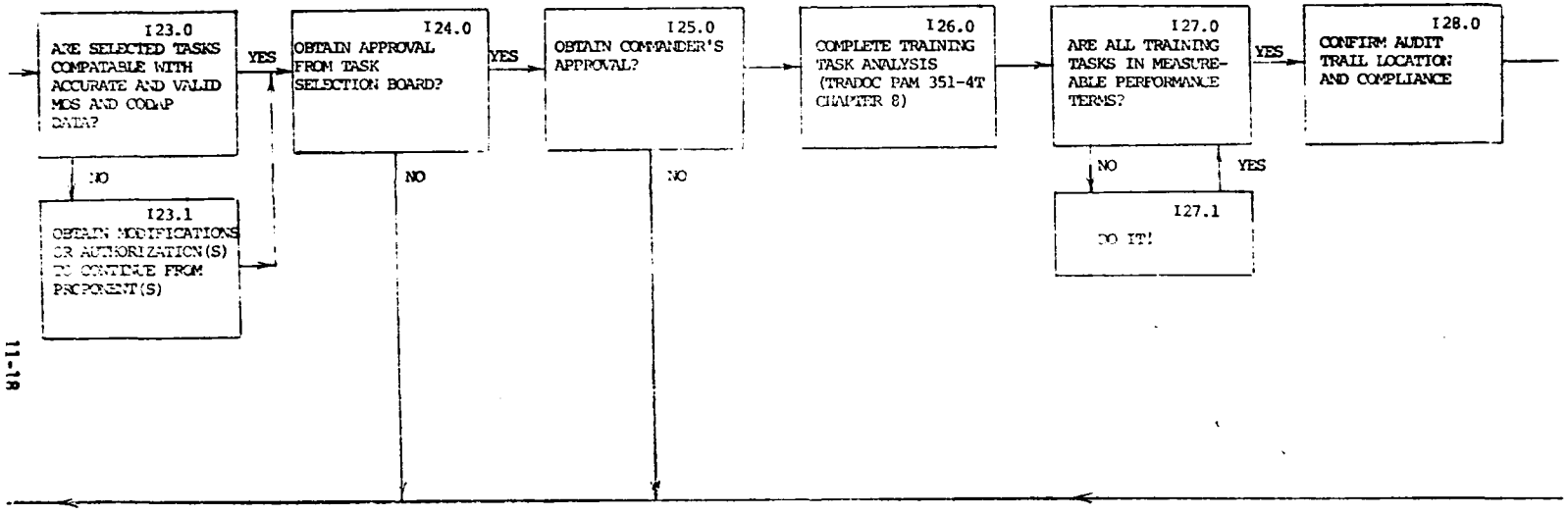


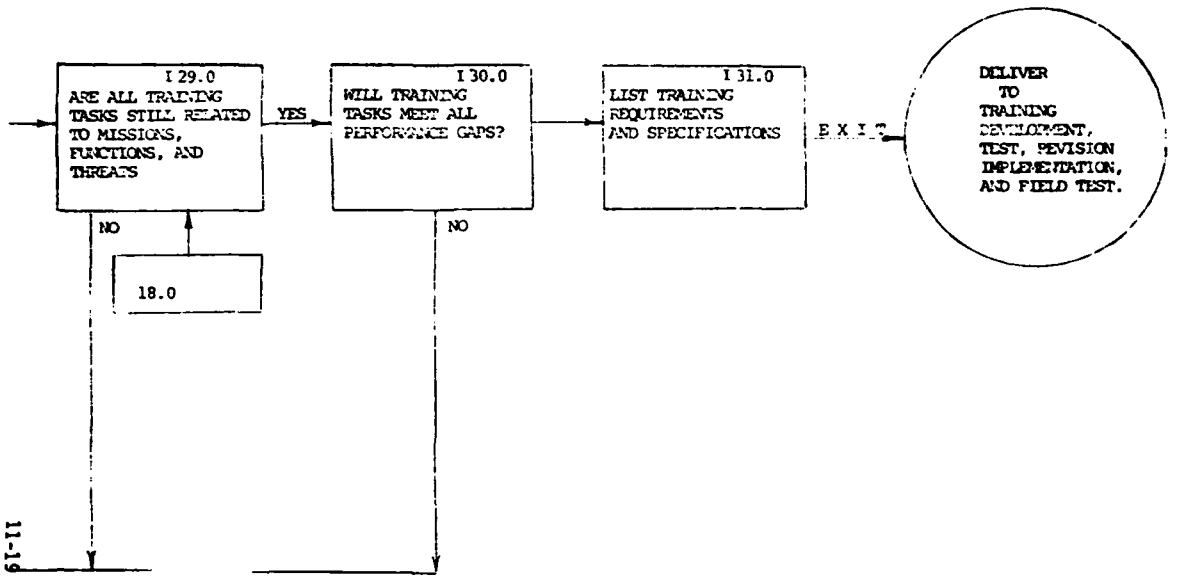
* DEFINED IN GLOSSARY


I 6.0
IDENTIFY PERFORMANCE PROBLEMS/DISCREPANCIES (LACK OF SKILLS, LACK OF KNOWLEDGE, REQUIREMENTS OF FORCES IN THE FIELD, UNIT MISSIONS
NONE
I 6.1
CONTINUE SYSTEMS ALREADY IN PLACE
EXIT TRAINING SYSTEM
I 7.0
DISCREPANCIES/ PROBLEMS IN MEASUREABLE PERFORMANCE TERMS?
YES
NO
I 7.1
CAN YOU ARRANGE FOR ITS DEVELOPMENT?
YES
NO
I 7.2
NOTIFY COMMAND ANALYSIS BASED ON INCOMPLETE CFEA DATA
YES
I 8.0
ARE PROBLEMS/ DISCREPANCIES RELATED TO THREATS & MISSIONS (RE-CHECK)
YES
NO
I 8.1
RE-ANALYZE PROBLEMS/ DISCREPANCIES AND THREATS AND MISSIONS
I 9.0
IS THERE A HUMAN PERFORMANCE GAP?
YES
NO
I 9.1
IS THERE AN EQUIPMENT/ MATERIAL GAP?
NO
YES
I 9.2
OBTAIN RESOLUTION FROM PROPONENT SYSTEM COMMAND
I 9.3
LIST CAUSES OF THE GAP.
NONE FOUND
I 10.0
LIST FUNCTIONS * ASSOCIATED WITH PROBLEMS/DISCREPANCES (PERFORM FUNCTION ANALYSIS)


I11.0
IDENTIFY INDIVIDUAL SOLDIERS TASKS ASSOCIATED WITH PROBLEM/DISCREPENT FUNCTION
I12.0
DEVELOP JOB AND TASK PLAN AS PER 11.0 INCLUDING INDIVIDUAL AND COLLECTIVE JOBS & TASKS
I13.0
ARE ALL JOBS AND TASKS IN MEASUREABLE PERFORMANCE TERMS
YES
NO
I13.1
CAN YOU ARRANGE FOR ITS DEVELOPMENT?
YES
NO
I13.2
NOTIFY COMMAND ANALYSIS BASED ON INCOMPLETE CFEA DATA
I14.0
COLLECT JOB AND PERFORMANCE DATA.
I15.0
DOES DATA MEET MINIMUM VALIDITY CRITERIA
YES
NO
I15.1
RECOLLECT JOB & PERFORMANCE DATA USING MINIMUM VALIDITY CRITERIA
I 16.0
COLLECT ALL TARGET POPULATION DATA IN MEASUREABLE PERFORMANCE TERMS E.G., INTELLIGENCE, PHYSICAL CAPACITY, LEVEL OF COMPETENCY VALUES, ETC.


.0
JOB AND
ALYSIS,
VERIFY, INCLUDING
SK INVENTORY.
EASUREABLE
ORMANCE TERMS?
YES
I 18.0
ARE ALL TASKS
RELATED TO FUNCTIONS
MISSIONS, AND
THREATS?
YES
I 19.0
ARE ALL INDIVIDUAL
AND COLLECTIVE
TASKS RELATED?
I 20.0
ESTABLISH TASK
CRITICALITY
CRITERIA
I 21.0
FORM TASK
SELECTION
BOARD
SELECT AND
TASKS FOR
(TRADOC RE
(TRADOC PA
NO
I 17.1
CAN YOU ARRANGE
FOR ITS
DEVELOPMENT?
NO
I 17.2
NOTIFY COMMAND
ANALYSIS BASED ON
INCOMPLETE CFEA DATA
NO
RETURN TO 8.1
NO
I 19.1
RESOLVE WITH
COLLECTIVE TRAINING


I23.0
ARE SELECTED TASKS COMPATABLE WITH ACCURATE AND VALID MOS AND COMP DATA?
YES
NO
I23.1
OBTAIN MODIFICATIONS OR AUTHORIZATION(S) TO CONTINUE FROM PROPONENT(S)
I24.0
OBTAIN APPROVAL FROM TASK SELECTION BOARD?
YES
NO
I25.0
OBTAIN COMMANDER'S APPROVAL?
NO
I26.0
COMPLETE TRAINING TASK ANALYSIS (TRADOC PAM 351-4T CHAPTER 8)
I27.0
ARE ALL TRAINING TASKS IN MEASURE-ABLE PERFORMANCE TERMS?
YES
NO
I27.1
DO IT!
I28.0
CONFIRM AUDIT TRAIL LOCATION AND COMPLIANCE


I 29.0
ARE ALL TRAINING TASKS STILL RELATED TO MISSIONS, FUNCTIONS, AND THREATS
YES
I 30.0
WILL TRAINING TASKS MEET ALL PERFORMANCE GAPS?
I 31.0
LIST TRAINING REQUIREMENTS AND SPECIFICATIONS
EXIT
DELIVER TO TRAINING DEVELOPMENT, TEST, REVISION IMPLEMENTATION, AND FIELD TEST.
NO
18.0
NO
11-19

Procedures for Integrating Front End Analysis

As the Army moved to full implementation of the ISD model it was not practical to start all training development anew and at the beginning. The urgent requirements for many different training tools and procedures - all needed at once precluded the logical order with which this front end task should ideally have been done. In a completely systematic approach organizational missions and collective tasks would have been carefully defined prior to the job and task analysis for the individual job specialities. Unit requirements would have had primacy and been a major determinant of the supportive individual proficiencies. Because of the pressing requirement and the concomitant TRADOC priority for the production of Soldiers Manuals and Skill Qualification Tests much of the individual front end analysis work was completed or well along before the collective FEA for the units to which these soldiers would be assigned was begun.

This non linear developmental approach reflects the real world of Army Training, and while theoretically undesirable, it is, from a practical perspective, unavoidable. Nor is there realistically any opportunity to change this approach to any major degree. Compounding this problem is the constant state of change in the key variables. Doctrine is under continuing modification; threat changes; new equipment systems are being introduced; and TOE's change. Because of these dynamic conditions it is impractical to develop a fixed set of procedures or steps to insure the proper integration of IFEA and CFEA.

Because of the difficulty of regulating this process it is believed that the best approach for TRADOC is to establish a flexible, non-mandatory set of guidelines which will serve at least three purposes. First, the guidelines should persuasively communicate the importance of such integration to the working training developers in the several schools. Second, the guidelines should take into account the various sequential stages in which the front end analyses are presently being done and point out milestones in the analysis sequence where integration actions are desirable and what these actions are. And third, the guidelines should include the definition of means by which school and TRADOC management can know that, at least, minimally adequate integration has occurred.

In considering the phasing of the collective and individual FEA as it is presently ongoing in the several schools, several variations in sequence are possible. Four of these approaches are as follows:

CFEA --> IFEA in Sequence - In this ideal situation, and one rarely occurring, all of the collective front end analysis would be completed prior to starting the individual analyses. Relevant threat information mission statements, echelon identity and collective task definition would then be available to the individual analyst as benchmarks for his work. Individual tasks would then be selected and pr[illegible]ted

against the criteria of their supporting the various collective tasks.

Figure No. 1 shows the critical places where integrative actions should take place. These events are taken from the full collective and individual algorithms and assume that the CFEA has been effectively completed. For this reason the information flow is only one way - from CFEA to IFEA. At the onset of the IFEA (I1.0) three types of information are needed: (1) information about all unit relevant threats and defined unit missions (C7.0); (2) the detailed, complete collective tasks list (C11.0); and (3) the verified mission/echelon/ situation combinations (C28.0).

The threat and mission data, (C7.0) is also needed at I8.0 when problems and discrepancies must be related to threat and mission, and much later in the IFEA at I29.0 when the selected individual training tasks are again and finally checked for relevance to mission, function and threat.

The overall detailed collective task list, developed in C11.0 is an essential input into the indentification of individual tasks associated with problem/discrepant function (I11.0) and the final list of individual jobs and tasks prepared for submission to the Task Selection Board (I12.0)

C28.0, which lists all mission/echelon/situation combinations for the unit is a critical data source for determining the relationship of problems and discrepancies to specified threats and missions (I8.0) and to I18.0 where the relevance of all critical individual tasks to functions missions and threats of the unit is initially verified. Similarly the critical functions for the various organizational echelons (C35.0) need to be considered when the functi associated with problems and discrepancies are listed (I10.0) and when all tasks are related to functions, missions and threats (I18.0).

Perhaps the most important points of integration are associated with C36.0, which is the final list of collecti critical tasks. These data should have high relevance: to the identification of individual tasks associated with probl discrepant functions (I11.0); to the development the Job and Task Analysis Plan and the definition of the individual tasks (I12.0); and to the determination of the relationship betwee the individual and collective tasks (I19.0).

The final determination that there has been an adequate integration between the collective and individual front end analysis is clearly a joint effort between the two groups of specialists doing this work. However, it is recommended that the ultimate "sign-off" responsibility for this should rest with the collective analysts and that this can only be verified by the completion of a collective/individual interface matrix (C51.0). Without such a matrix, disconnects between the CFEA and the several relevant IFEAS cannot be observed. In order to assure that there is a match between collective and individual tasks and standards (C52.0) the interface matrix is essential and it is strongly recommended

that it be required in all front end analyses. The completion of these steps (C51.0 and C52.0) is necessary before the quality assurance question, "Are all individual and collective tasks related?" (I19.0) can be answered and before the individual training task analysis can be completed (I26.0).

IFEA → CFEA in Sequence - A second type of work phasing is where all or much of the individual analyses have been completed prior to the beginning of the CFEA. Because of the high and early priority on the development of Soldiers Manuals and SQTs this sequence of development has not been unusual. While it is not ideal there are still steps that can be taken by the collective analysts to minimize or eliminate any collective/individual disjunctions.

In the preceding section, where CFEA occured prior to IFEA, the individual analysts were guided or even constrained by CFEA data. However, the collective analysts cannot be similary limited by the IFEA data when the analysis sequence is reversed. It is still crucial to check all individual jobs and tasks to insure that all critical tasks are supported. The non-support of a critical collective task is not, however, acceptable. Where such disconnects are observed the individual analysts must be apprised and corrective action taken in the IFEA and the associated training products (SMs and SQTs). Or the collective analysts must be made aware that an individual task upon which a collective task dependance exists, is not feasible and require adjustment in the collective task. Individual soldier tasks may be more than the unit requires they cannot be less!

As can be seen from Figure No. 2 the cross-check events from the individual and collective algorithms are essentially the same as in the preceding section except the information flow is reversed. However, the integration processes and the uses to be made of the information is quite different. The first difference is that in the IFEA → CFEA sequence there are likely to be several job specialties which have been analyzed for any given unit. Where the individual analyst must be concerned with only one CFEA (or at most only a few) the collective analyst must examine several IFEAS, that is, all the job specialties in the unit's TOE. Further, this examination is not a determinant of collective tasks but a check to insure support of all critical collective tasks.

Thus, when the collective analyst receives the information from I8.0 and I18.0 about problems/discrepancies and tasks related to threats and missions, his purpose is to determine whether or not the IFEA perception of threat and mission is appropriate and in agreement with those threats and missions relevant to the unit in question. If there is disagreement or misunderstanding of these fundamental starting points, the collective analyst should be alert to the possibility of later errors in individual function and task definition (I10.0, I11.0, and I12.0).

When IFEA totally precedes CFEA then the individual tasks to missions and threats (I18.0) and in ascertaining the relationship between individual and collective tasks (I19.0), must be based on judgement and knowledge of the traditional organiza-

tional characteristics and roles. The collective analysts must be especially alert for error in these judgements and insist upon corrective actions when errors are observed.

Again the key points of integration are where the individual and collective tasks are compared one with another (I12.0→ →C11.0 and I12.0 →C360) when the collective/individual interface matrix is completed (I19.0 →C51.0), and when there is determined to be a match between individual and collective tasks and standards.

CFEA/IFEA Revision - The third type of work sequence is where both the collective and individual analyses have been completed at some time past and one or the other or both are scheduled to be redone or substantially revised. Essentially the same points of coordination described in the previous sections must be used, except the direction of information flow will depend upon the particular phase each of the analyses is in. If both the collective and indivudual analyses are being redone the collective should precede the individual and follow the steps described in the CFEA IFEA section. In any case, the assurance of integration reflected by activities C510 and I19.0 should be accomplished and certified.

CFEA/IFEA - Task Force Approach - A fourth approach, for either an original analysis or for a revision, would be to have a peecial single group, or task force, responsible for both the collective and individual front end analyses. Here a coordinated task force made up of both collective and individual analysis specialists would together undertake the entire task. The work would begin with the collective analysis and proceed through C49.0, the development of the collective task hierarchies, and at that point the work would shift to the analyses of the various individual job specialties. After analyzing all of the individual tasks the task force would return to the collective analysis stream (C50.0), develop the collective/ individual interface matrix (C51.0) and match for standards (C52.0).

This approach would be particularly suitable for units which did not have a large number of different job specialties. And since the same people would be doing both the collective and individual analyses effective interface would be virtually assured.

CFEA → IFEA SEQUENCE

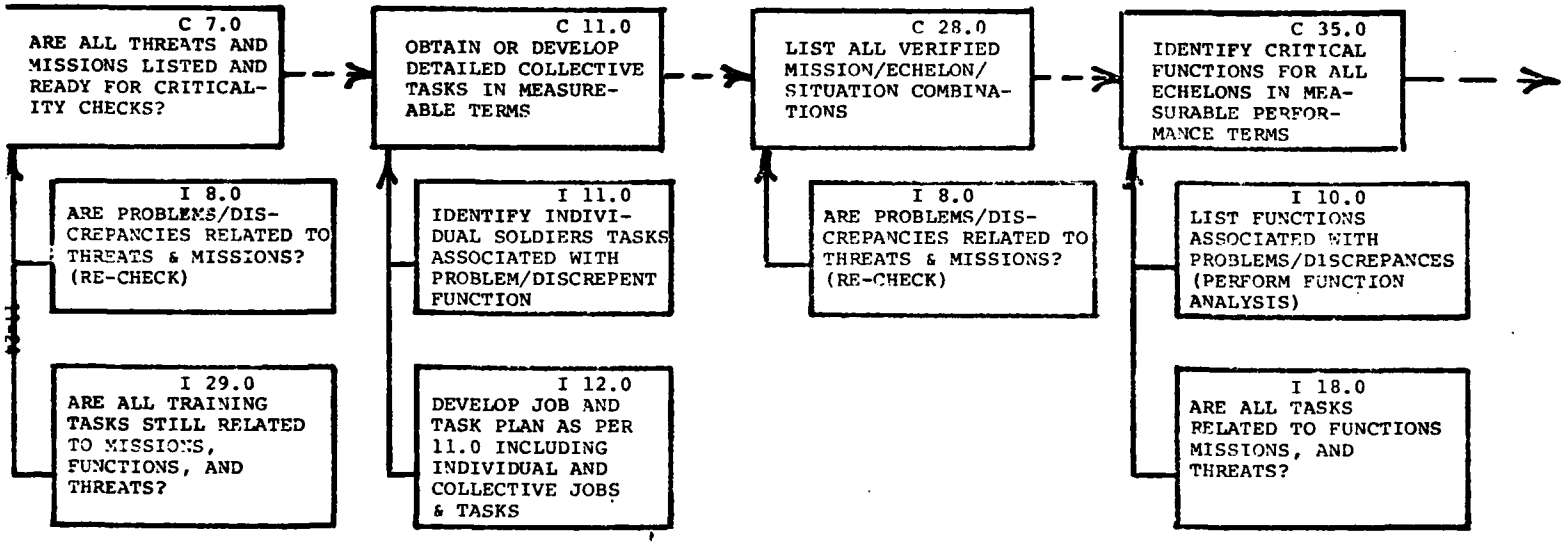
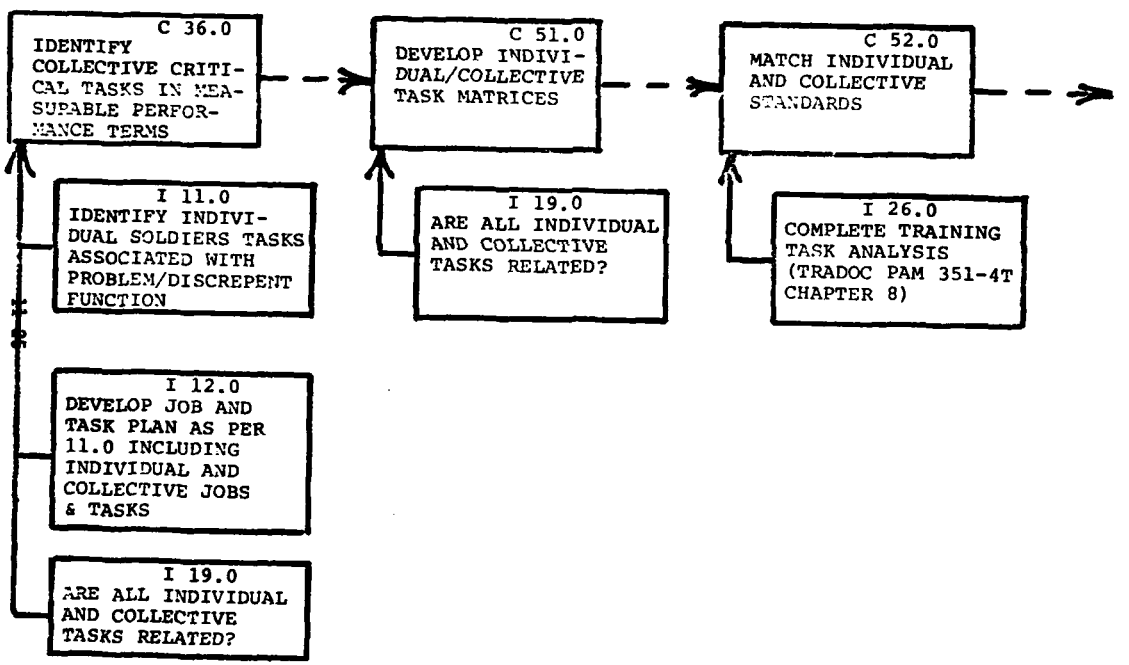


FIGURE NO. 2 -- Events from Collective and Individual FEA Algorithms where Integrative Actions should occur, and where IFEA entirely precedes CFEA.

CFEA → IFEA SEQUENCE (CONTD)



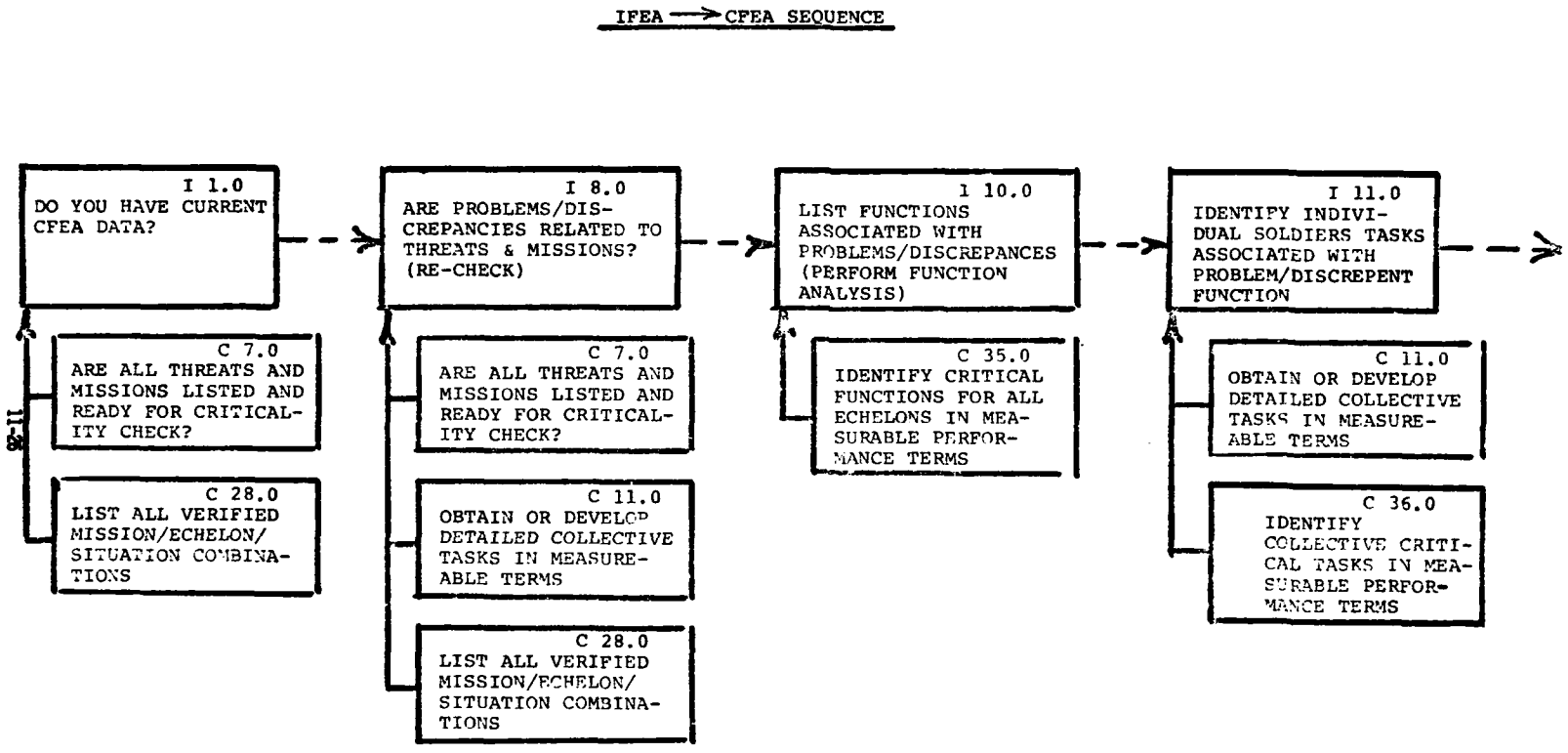
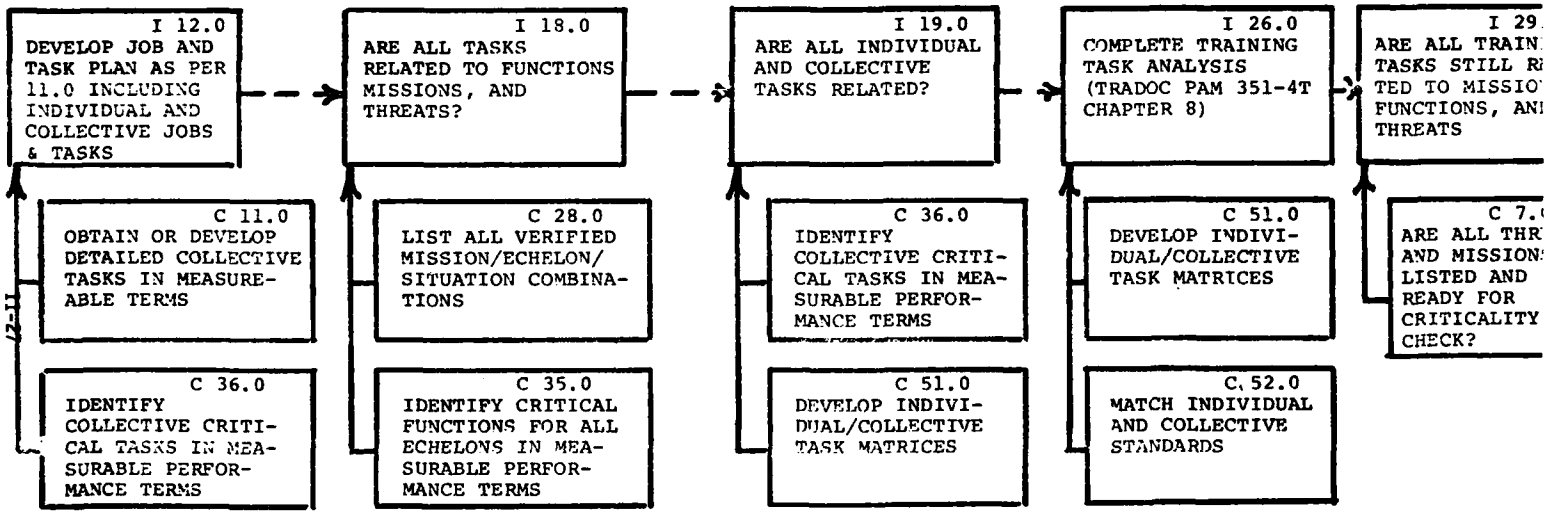
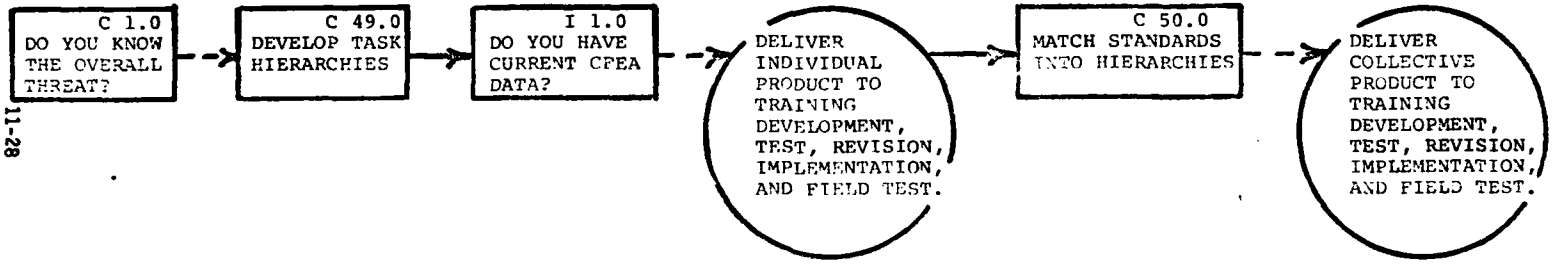


FIGURE NO. 1 -- Events from Collective and Individual FEA Algorithms where integrative actions should occur, and where CFEA entirely precedes IFEA.

IFEA → CFEA SEQUENCE (CONTD)



CFEA/IFEA - TASK FORCE APPROACH



INDIVIDUAL TRAINING PLAN

ORIGIN

DEVELOPMENT

CURRENT STATUS TO INCLUDE A DESCRIPTION OF THE MODEL

PLANS AND MILESTONES FOR THE ITP SYSTEM

INDIVIDUAL ACCESSION AND TRAINING STUDY

INDIVIDUAL ACCESSION AND TRAINING STUDY

PROBLEMS

1. TRADOC HAS NOT BEEN ABLE TO MEET AR 611-201 IMPLEMENTATION DATES.

2. PERSONNEL MANAGEMENT IMPLEMENTATION DATES DO NOT CONSIDER THE TRAINING DEVELOPMENT TIME FACTOR.

3. THE EPMS RECONFIGURATION HAS PRODUCED SOME MOS WHICH ARE NOT TRAINABLE.

4. DA TRAINING DEMANDS DO NOT ALLOW TIME FOR ADEQUATE TRAINING DEVELOPMENT.

5. NO UNIFORM PROCEDURE FOR OBVIATING TRAINING DUPLICATIONS AMONG TRADOC SCHOOLS.

INDIVIDUAL ACCESSION AND TRAINING STUDY

IATS OBJECTIVES

1. INSURE ALL TRAINING IS BASED ON A FRONT - END ANALYSIS.

2. DESCRIBE THE ISD TRAINING PROCESS IN A MANNER TO PERMIT ITS EFFECTIVE INTERFACE WITH THE RESOURCE AND PERSONNEL SYSTEMS.

3. DETERMINE INTERFACE POINTS BETWEEN THE PERSONNEL. RESOURCE MANAGEMENT AND TRAINING PROCESSES.

4. DEVELOP A SYSTEM TO ALIGN THE PROCESSES.

5. INTEGRATE THE LOGISTIC/FACILITY CONSIDERATIONS.

6. INTEGRATE THE LCSMM POINTS.

INDIVIDUAL ACCESSION AND TRAINING STUDY

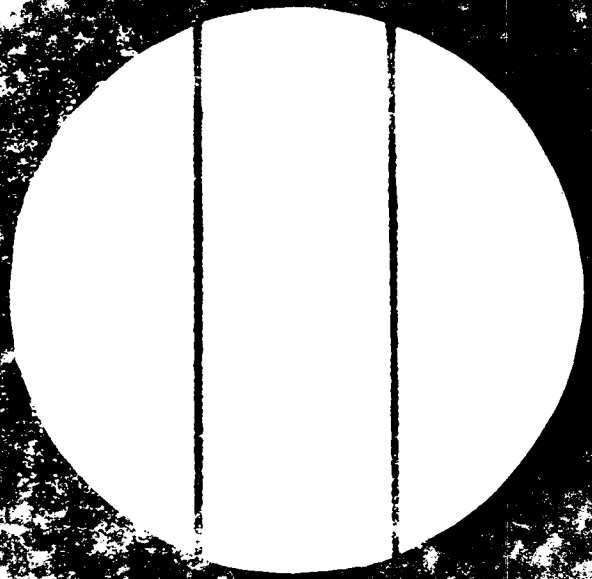
THE SPECIFIC RESULTS OF THE IATS GROUP

- IDENTIFICATION OF 14 PROBLEMS AND PROPOSED SOLUTIONS
- INDIVIDUAL TRAINING PROGRAM (ITP) CONCEPT
- TRAINING AID/SLIDE RULE
- TRAINING REQUIREMENTS ANALYSIS DIVISION (TRAD)

12-8

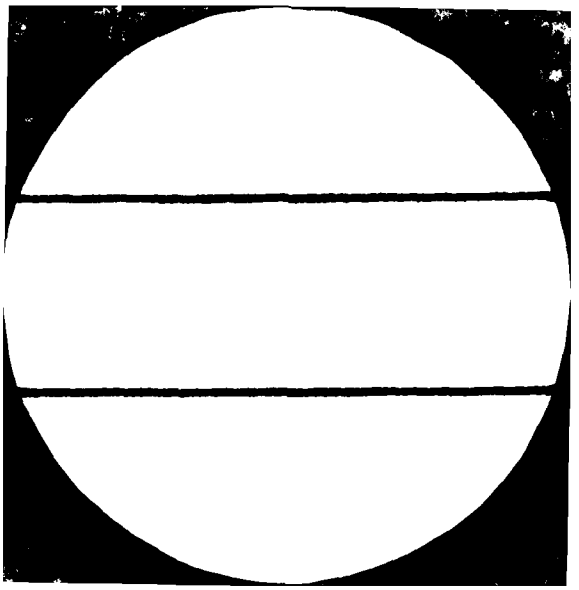
INDIVIDUAL ACCESSION AND TRAINING STUDY

TRAINING REQUIREMENTS ANALYSIS DIVISION

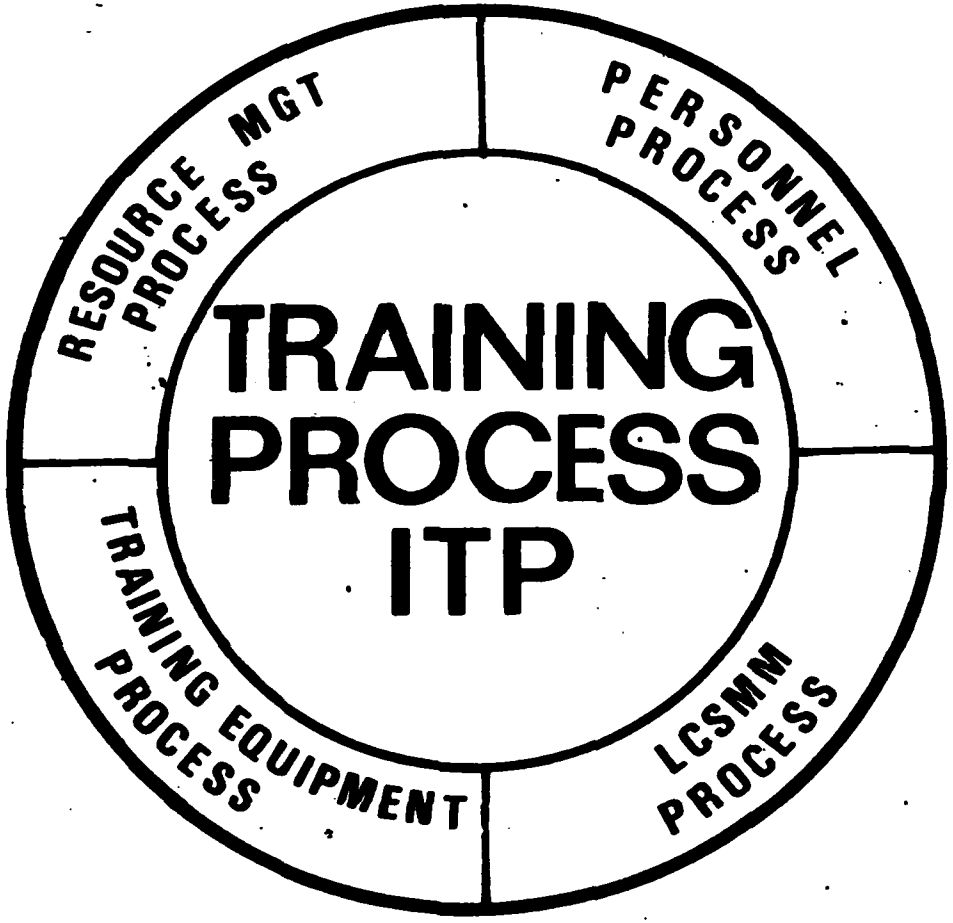


TRAD

SLIDE RULE

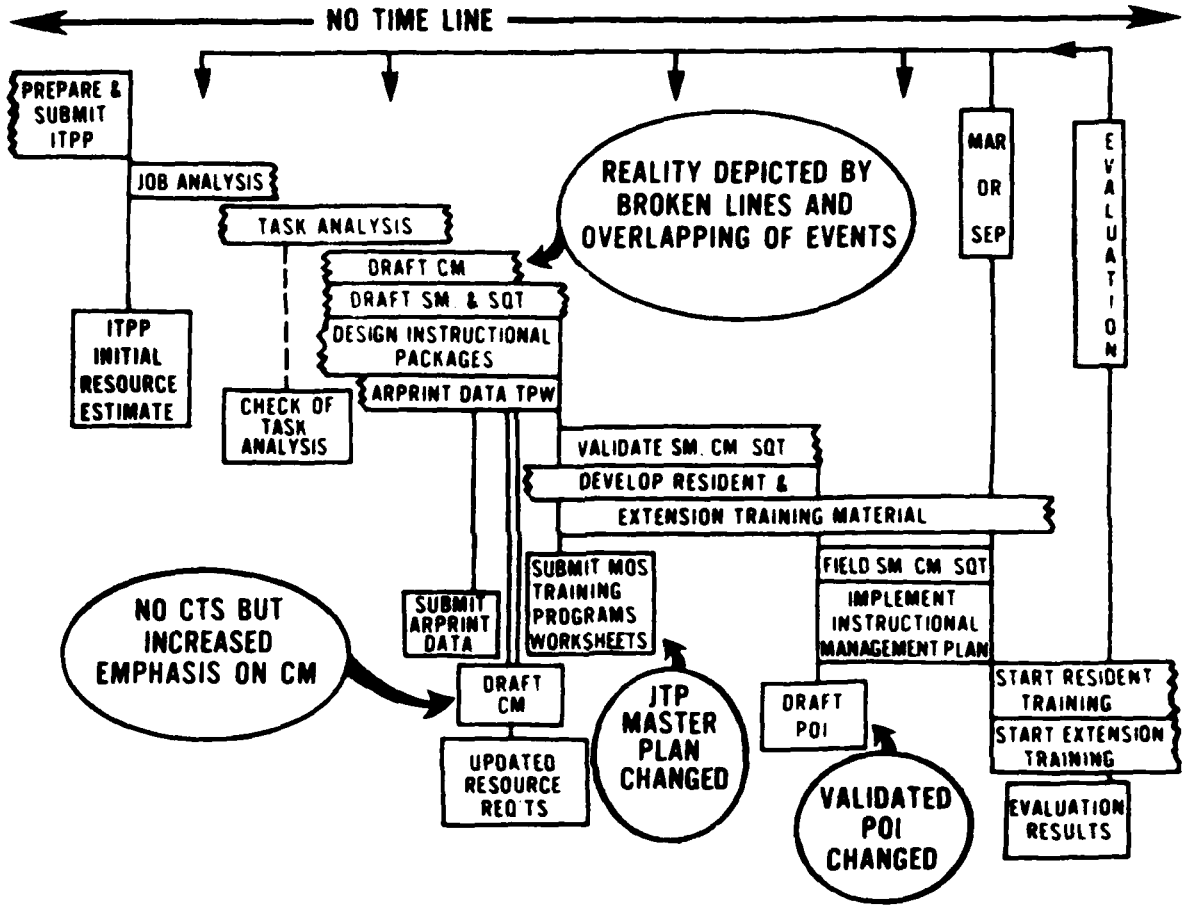


TRAINING REQUIREMENTS ANALYSIS SYSTEM



TRAS

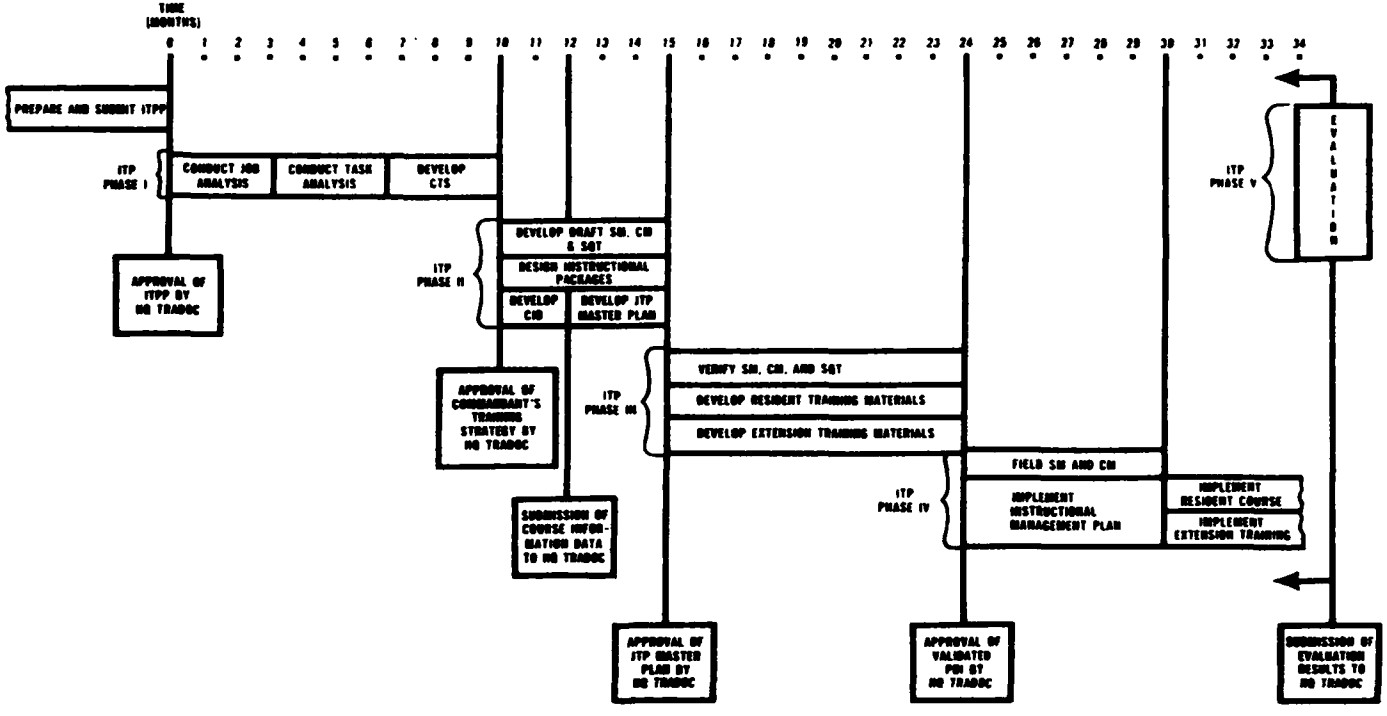
LATEST INDIVIDUAL TRAINING PLAN MODEL



12-14

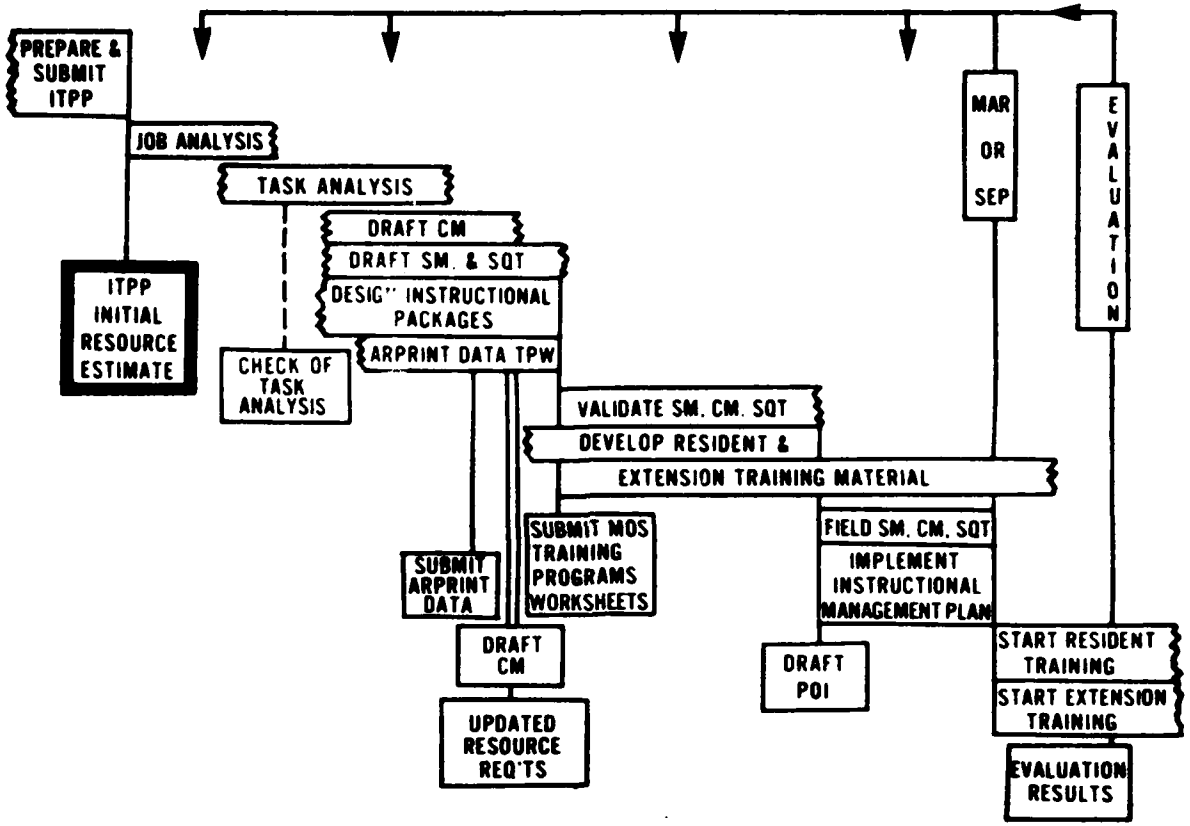
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INDIVIDUAL TRAINING PLAN MODEL

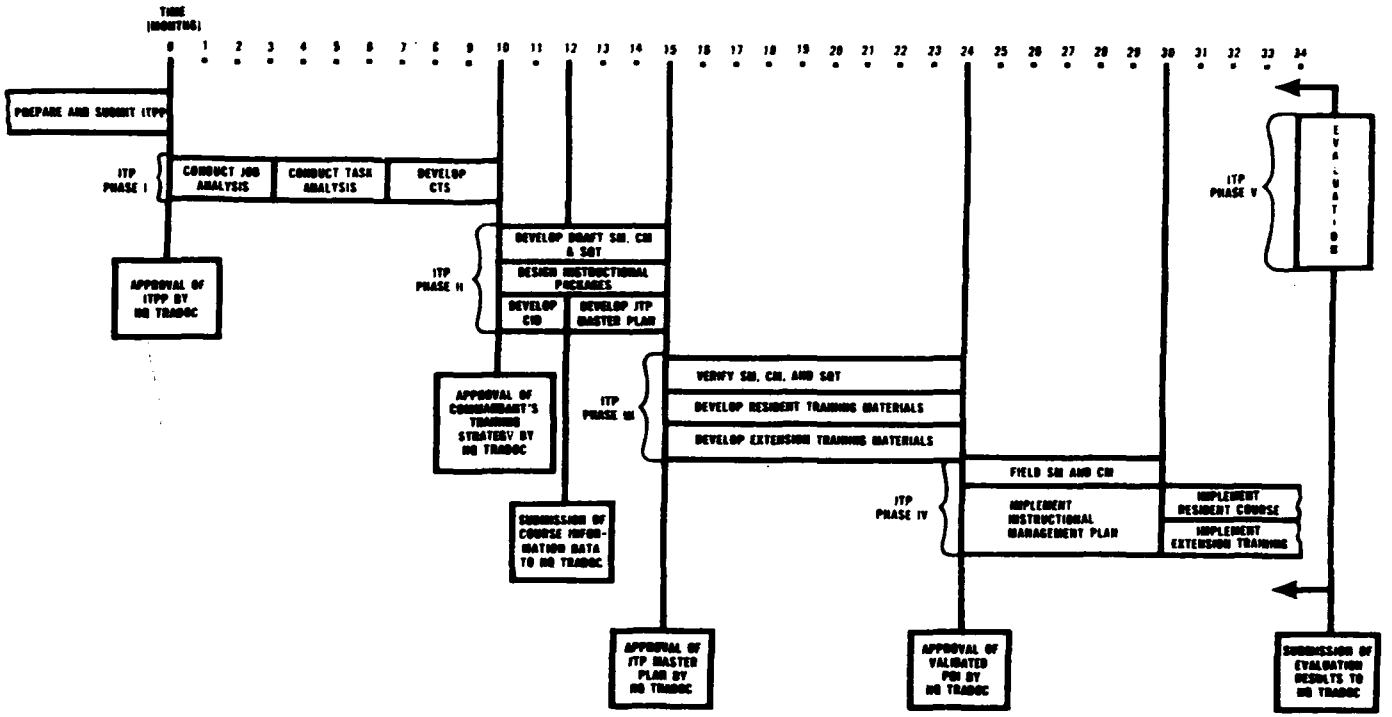


17

INDIVIDUAL TRAINING PLAN MODEL



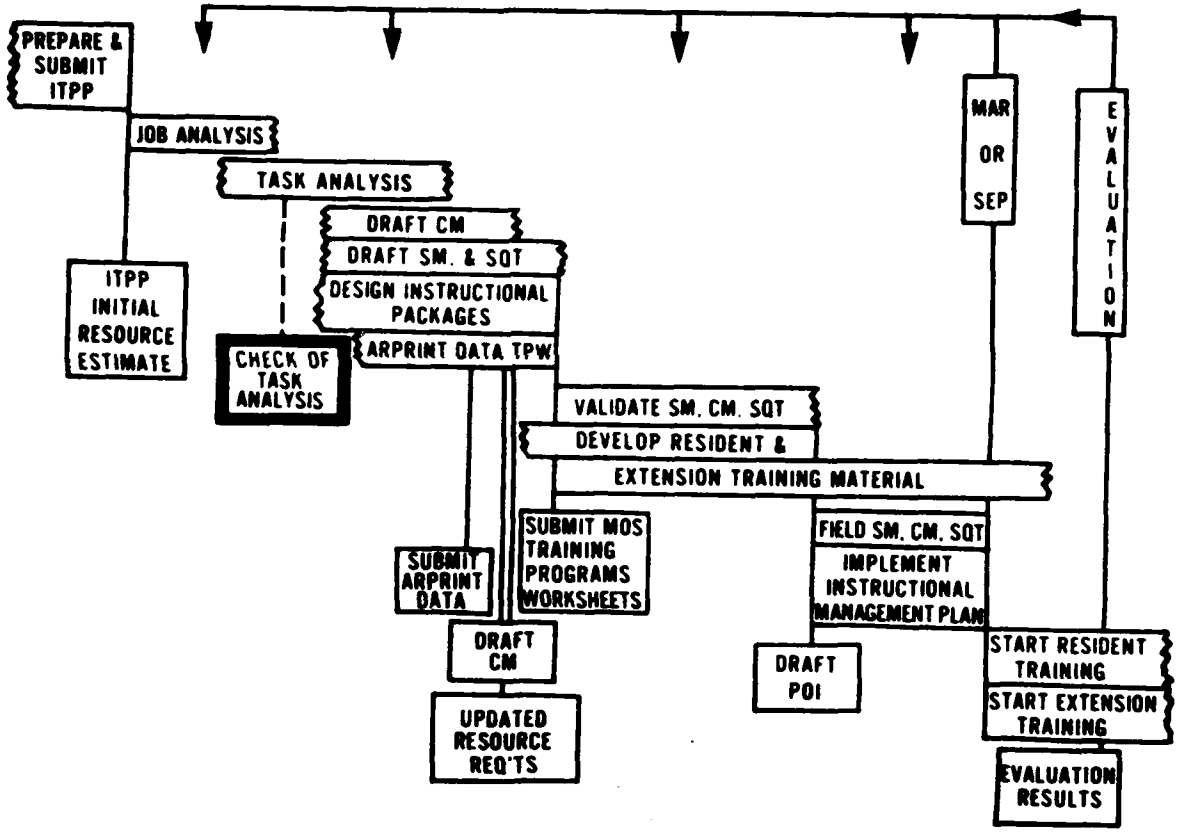
OLD INDIVIDUAL TRAINING PLAN MODEL



ITP PROPOSAL

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
TRAINING REQUIREMENT	IS TRAINING THE APPROPRIATE SOLUTION	EXAMINE REQUIREMENT FOR VALIDITY DUPLICATION	REQUESTS FOR ADDITIONAL RESOURCES MUST BE TIMED TO COINCIDE WITH THE APPROPRIATE PARR SUBMISSION
TRAINING DEVELOPMENT MILESTONES	TO INSURE ALL EVENTS ARE PLANNED IN A SYSTEMATIC MANNER AND ARE ALIGNED WITH KEY RESOURCE WINDOWS INHERENT IN OTHER SYSTEMS	EXAMINE PROJECTED MILESTONES FOR TIMELY TD PROCESS AND INTERFACE WITH OTHER ARMY SYSTEMS (BUDGET, PERSONNEL, LOGISTICS, ETC.)	ARE MCA $ REQD → YES → PARR 5 YEARS PRIOR TO IMPLEMENTATION NO → ARE INCREASED RESOURCES REQD → YES → PARR 30 MO PRIOR TO IMPLEMENTATION NO → SUBMIT ITPP IN SUFFICIENT TIME TO ALLOW FOR PROPER TD & TIMELY INTERFACE WITH NECESSARY SYSTEMS
JOB AND TASK ANALYSIS PLAN	TO ASSURE A SYSTEMATIC APPROACH TO JOB AND TASK ANALYSIS	EXAMINE JOB AND TASK ANALYSIS PLAN FOR COMPLIANCE WITH TRADOC REG 351-4	
RESOURCE ESTIMATE	PROVIDE BASIS FOR TRADOC 5 YEAR TRAINING DEVELOPMENT PLAN AND THE RESOURCE ESTIMATES NECESSARY FOR ENTRY INTO THE PPBS (PARR)	EXAMINE RESOURCE PROJECTIONS FOR INCLUSION IN PPBS DOCUMENTS	

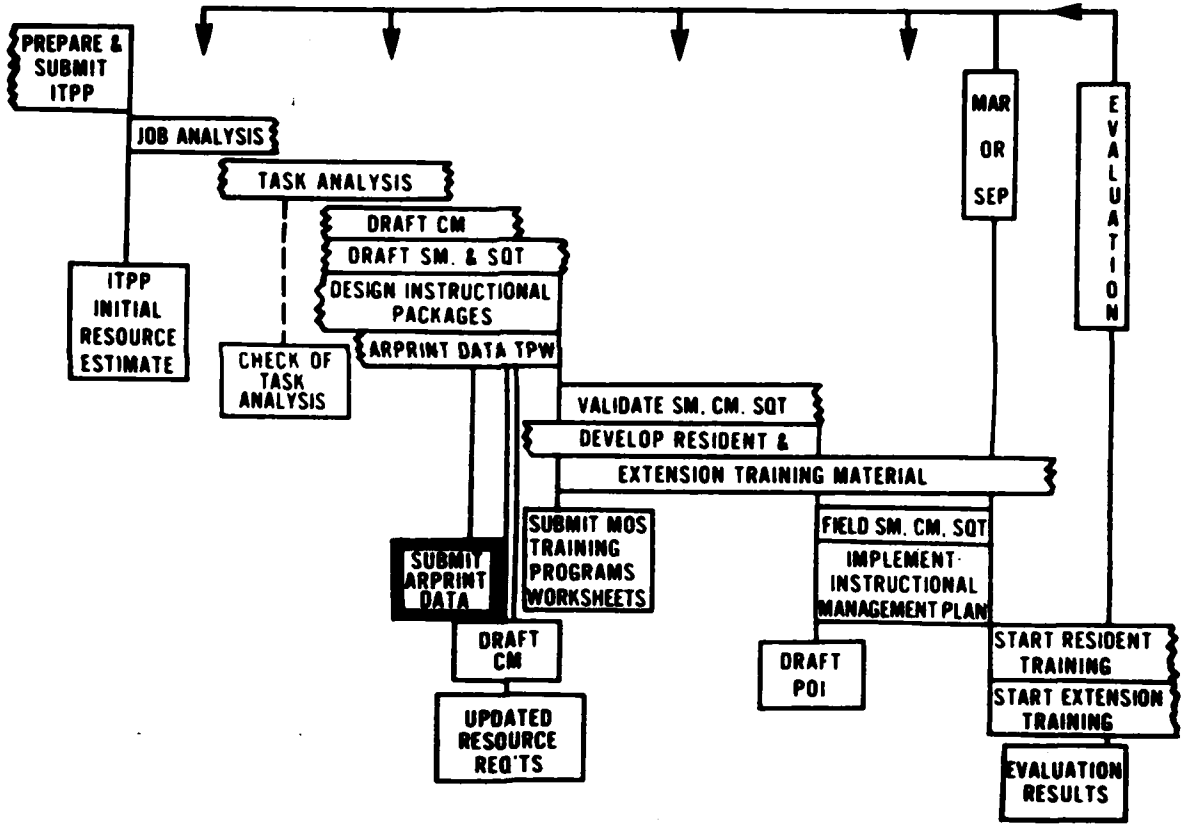
INDIVIDUAL TRAINING PLAN MODEL



CHECK OF TASK ANALYSIS

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
SAMPLE OF TASK ANALYSIS WORK-SHEETS FOR 6-12 OF THE CRITICAL TASKS AT EACH SKILL LEVEL	DRAFT CM AND SM ARE SUBMIT-TED TOO LATE TO CORRECT DE-FICIENCIES IN TASK ANALYSIS	CHECK TO DETERMINE IF TASK ANALYSIS IS ADEQUATE TO SUPPORT DEVEL-OPMENT OF SM, SQT, RESIDENT TRAINING AND EXTENSION TRAINING (MAY REQUIRE "TRAINING ASSIS-TANCE" VISIT).	WHEN REQUESTED BY HQ TRADOC IT WILL BE SUBMIT-TED IMMEDIATELY UPON COMPLE-TION OF FIRST GROUP OF TASKS

INDIVIDUAL TRAINING PLAN MODEL

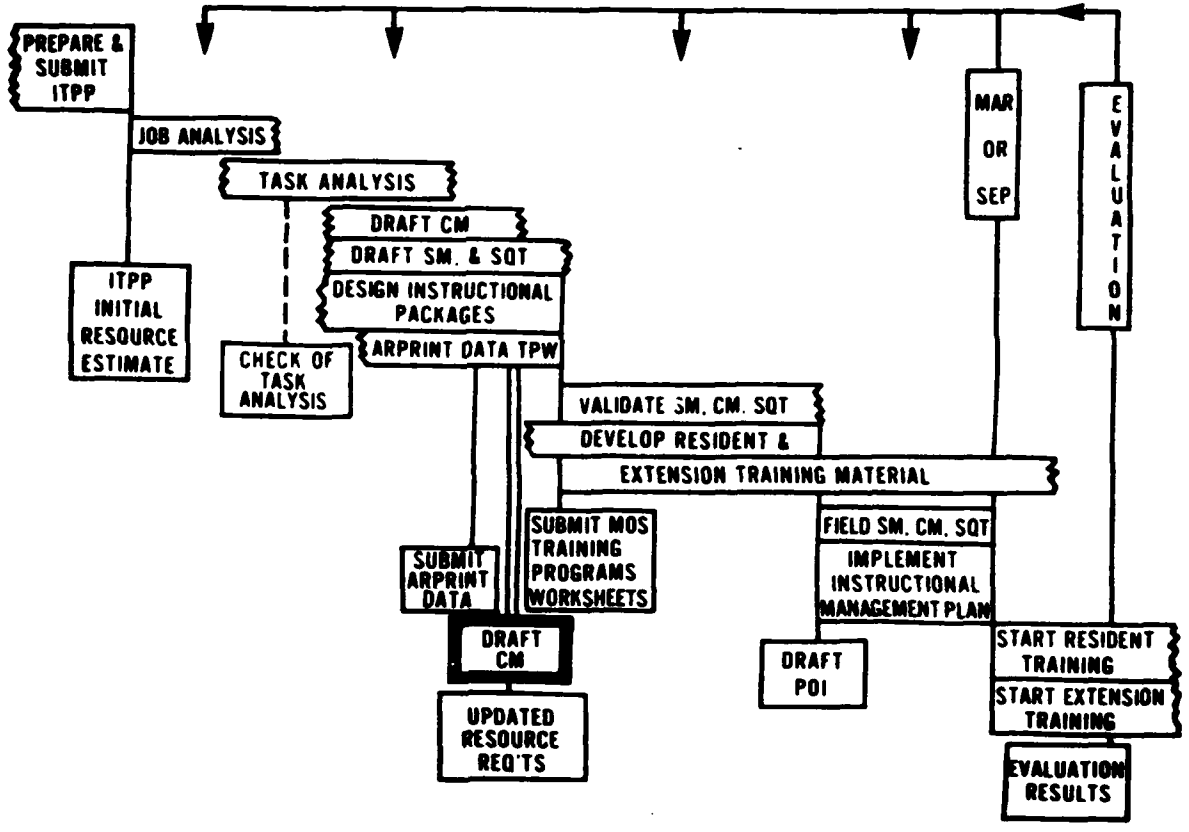


ARPRINT DATA

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
1. COURSE NUMBER AND TITLE 2. PURPOSE 3. PREREQUI-SITES 4. SCOPE 5. LENGTH 6. TRAINING LOCATION 7. COURSE START DATE	FINIAL POI SUBMISSION IS TOO LATE TO LOAD ARPRINT AND INFLU - ENCE PROVI - SION OF NECESSARY RESOURCES AND SOLICI-TATION PROCESS	INSURE TIMELY LOADING	AS SOON AS POSSIBLE BUT AS A MINIMUM 18 MONTHS PRIOR TO IMPLEMEN-TATION OF RESIDENT COURSE

12-22

INDIVIDUAL TRAINING PLAN MODEL



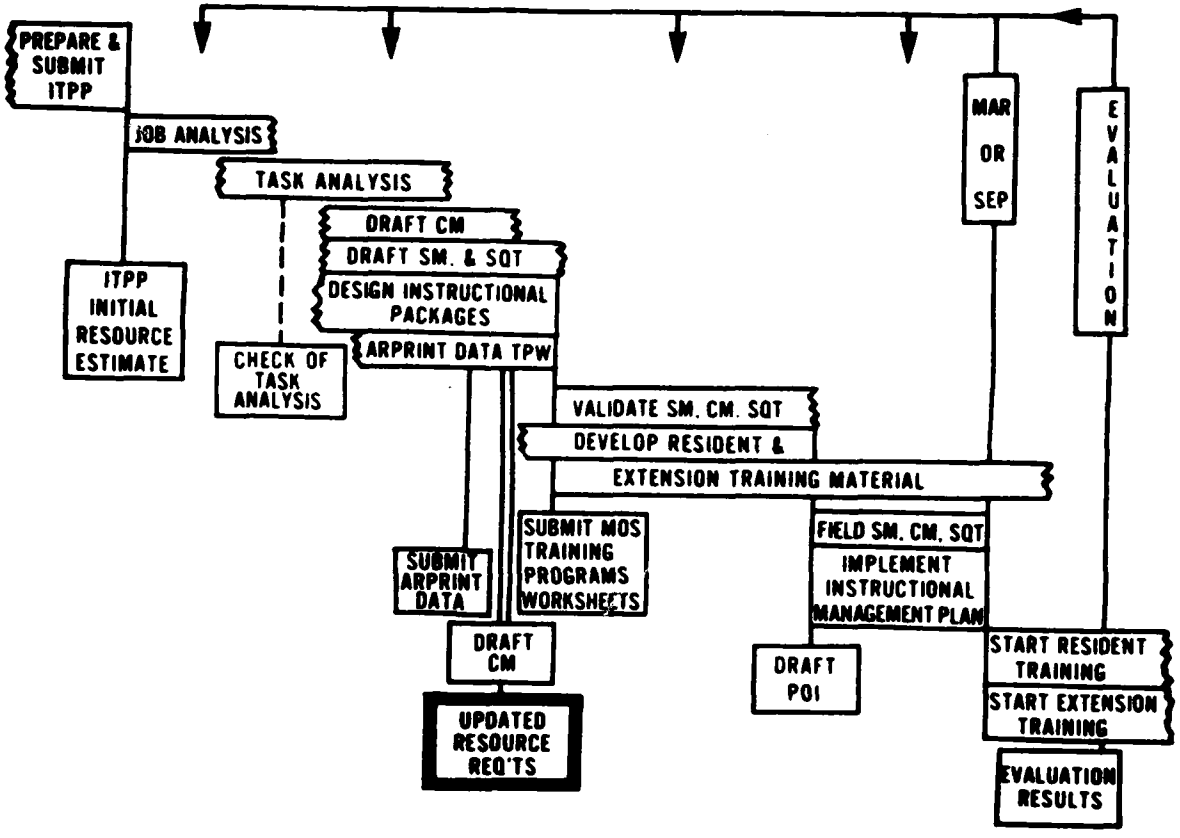
25

DRAFT CM

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
DRAFT CM	DOCUMENT THE MOS TRAINING PLAN AND PROVIDE SUPPORTING JUSTIFICATION FOR SUBSEQUENT RESOURCE ESTIMATES	EXAMINE FOR ADHERENCE TO TRADOC POLICY. (TR 351-4 AND TC 351-28)	AS SOON AS AVAILABLE IN ACCORDANCE WITH ITE GUIDE-LINES. WHENEVER POSSIBLE THE DRAFT CM WILL COINCIDE WITH THE UPDATED RE-SOURCE ESTIMATE

12-24

INDIVIDUAL TRAINING PLAN MODEL

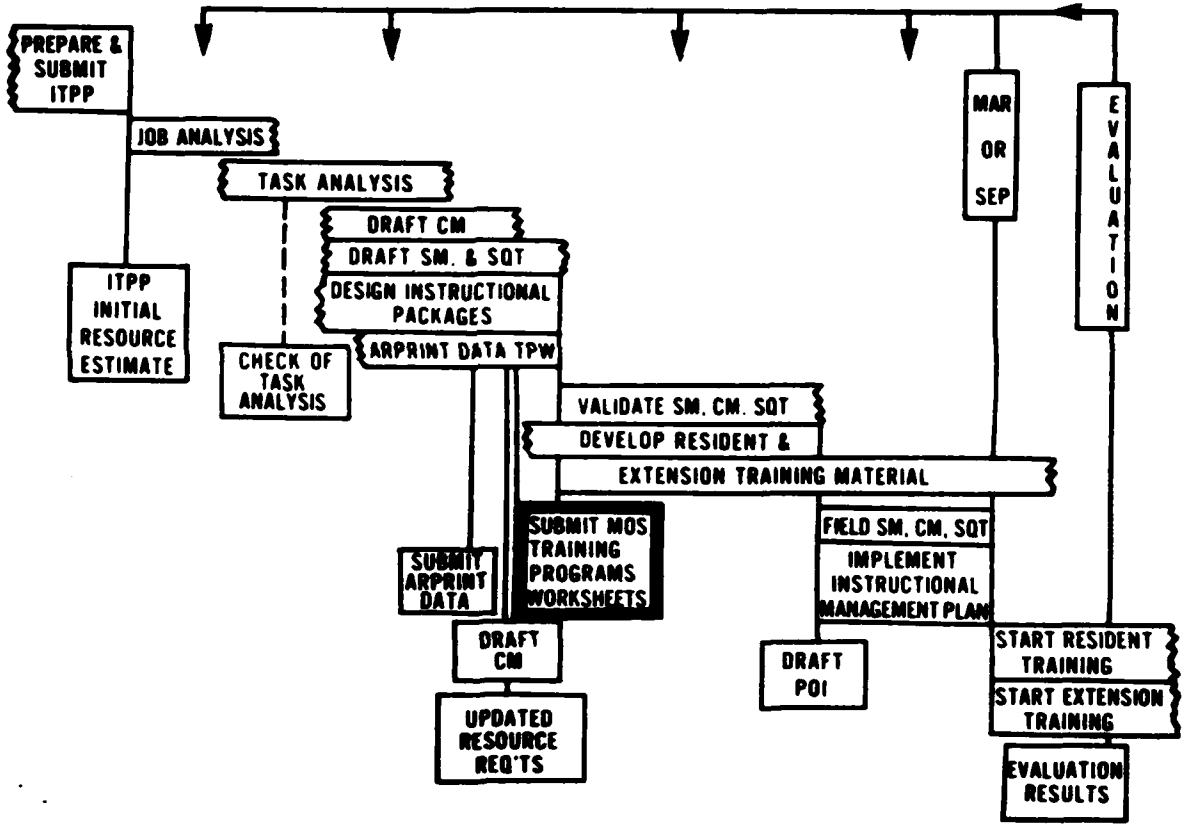


UPDATED RESOURCE ESTIMATE

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
UPDATED RESOURCE ESTIMATE (SAME FORMAT AS SUBMITTED IN ITPP)	OPPORTUNITY TO ENTER INTO RESOURCE SYSTEM IF NEEDED	EXAMINE UPDATED RESOURCE PROJECTIONS TO DETERMINE IF ANY ALTERATIONS ARE REQUIRED IN TRADOC RESOURCE SUBMISSIONS	IN CONJUNCTION WITH THE 2d PARR OCCURRING IN THE ITP. IN OTHER WORDS, THE PARR ONE YEAR FOLLOWING THE PARR INTO WHICH THE ORIGINAL RESOURCE ESTIMATE FROM THE ITPP WAS ENTERED

12-26

INDIVIDUAL TRAINING PLAN MODEL

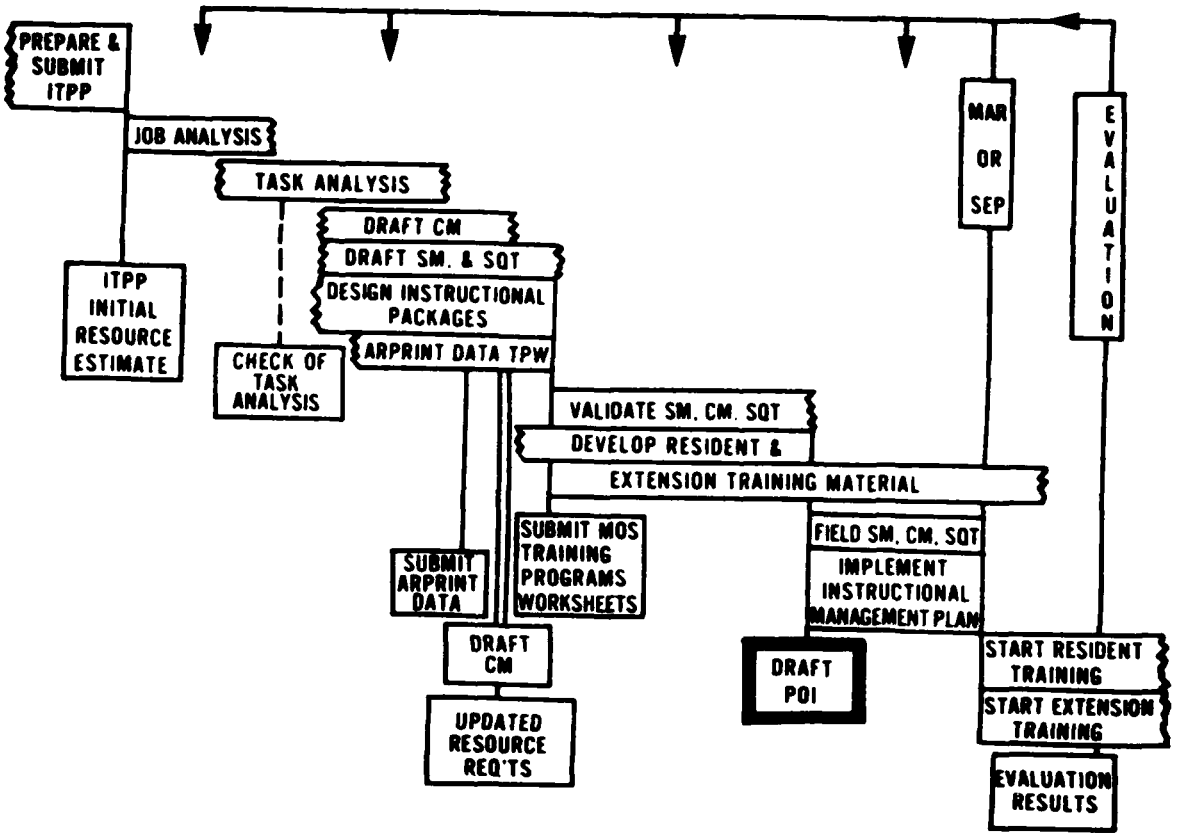


MOS TRAINING PROGRAMS WORKSHEET

INFORMATION REQUESTED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
COMPREHENSIVE ARRAY WHICH MATCHES MOS TASKS REQUIRING EXTENSION TRAINING WITH THOSE VALIDATED PRODUCTS IN THE FIELD, UNDER DEVELOPMENT, OR REQUIRING TRAINING BREAKOUT BY FISCAL YEAR OF THE PROJECTED DEVELOPMENT EFFORTS TO SUPPORT THE TASKS REQUIRING TRAINING BY JOBS RESOURCE ESTIMATE FOR PRODUCING THE TRAINING DEVELOPMENT EFFORTS IDENTIFIED AS REQUIREMENTS	PERMITS THE TRAINING DEVELOPER TO SEE THE PRODUCT COVERAGE PROVIDED BY THE VARIOUS MOS RELATED PROJECTS ALLOWS EASY COORDINATION AND PRIORITIZATION OF PROJECTS THUS CREATING EFFICIENCY REQUIREMENTS GENERATION PLACED ON A "PULL" SYSTEM REQUIRE PROPONENTS TO INTEGRATE TRAINING DEVELOPMENT EFFORTS	CHECK FOR COMPLIANCE WITH COMMANDANT'S TRAINING STRATEGY FOR EXTENSION TRAINING USE RESOURCE PROJECTIONS TO DEVELOP TRAINING DEVELOPMENT REQUIREMENTS FOR ATSC	UPON COMPLETION OF DESIGN PHASE

12-28

INDIVIDUAL TRAINING PLAN MODEL



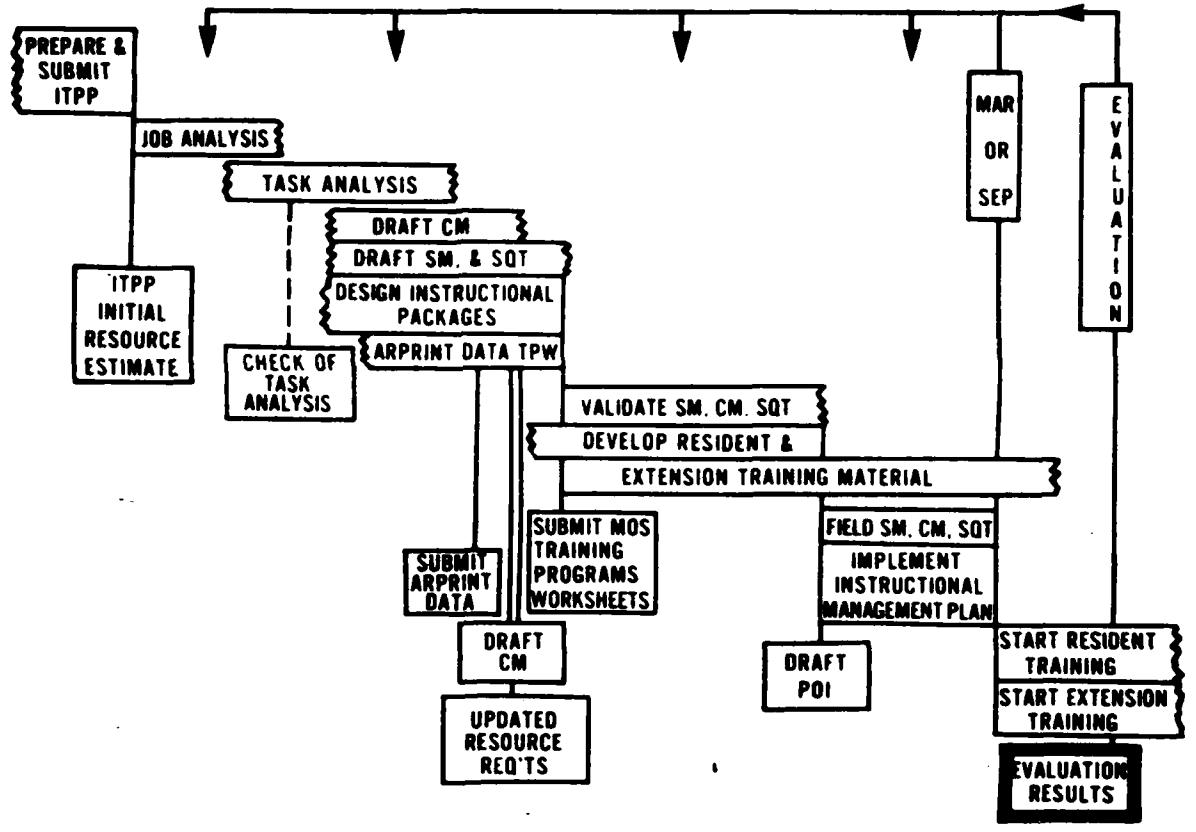
34

DRAFT POI

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
A SUMMARY OF THE TASK-BASED TRAINING MATERIAL WHICH WILL MAKE UP THE RESIDENT COURSE. A "BEST AND FINAL" ESTIMATE OF THE RESOURCES ASSOCIATED WITH CONDUCTING THE RESIDENT COURSE	VERIFY RESOURCE REQUIREMENTS INDENTIFICATION OF RESOURCE ADJUSTMENTS REQUIRED COPY MUST BE SUBMITTED TO THE AMERICAN COUNCIL ON EDUCATION	EXAMINE FOR COMPLIANCE WITH CM ESTABLISH RESOURCE REQUIREMENTS "BASE" FOR CONDUCTING RESIDENT TRAINING	APPROXIMATELY 6 MONTHS PRIOR TO IMPLEMENTATION OF THE RESIDENT COURSE

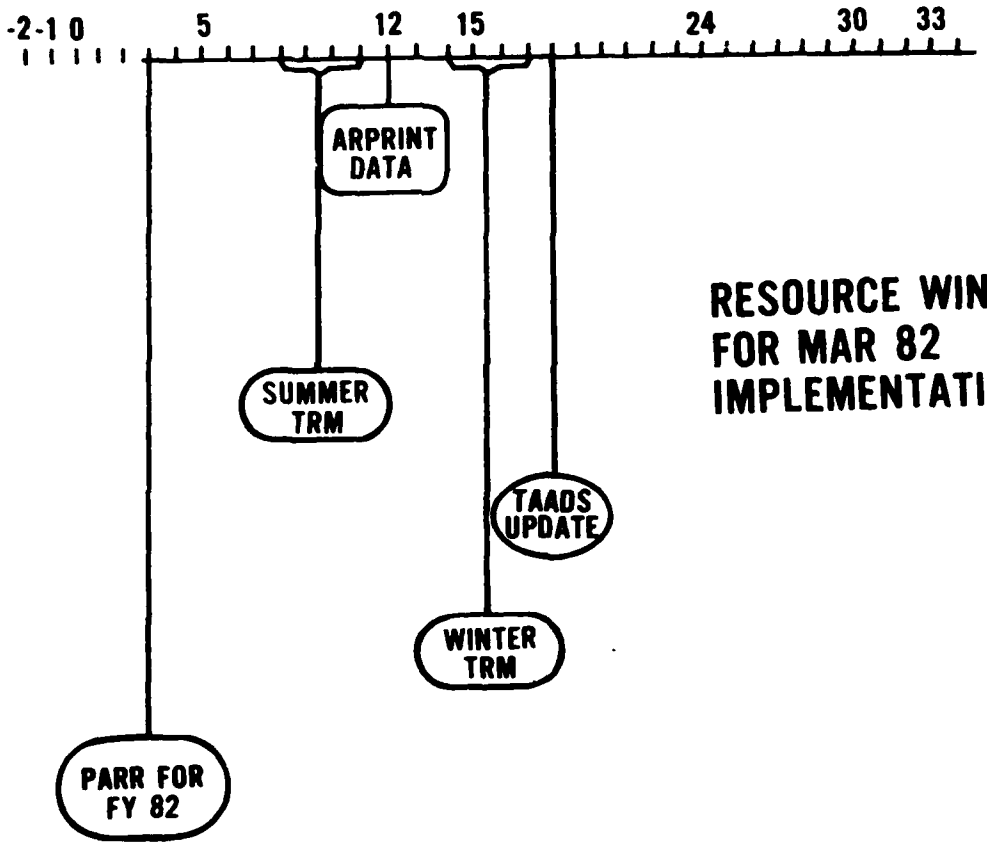
12-30

INDIVIDUAL TRAINING PLAN MODEL



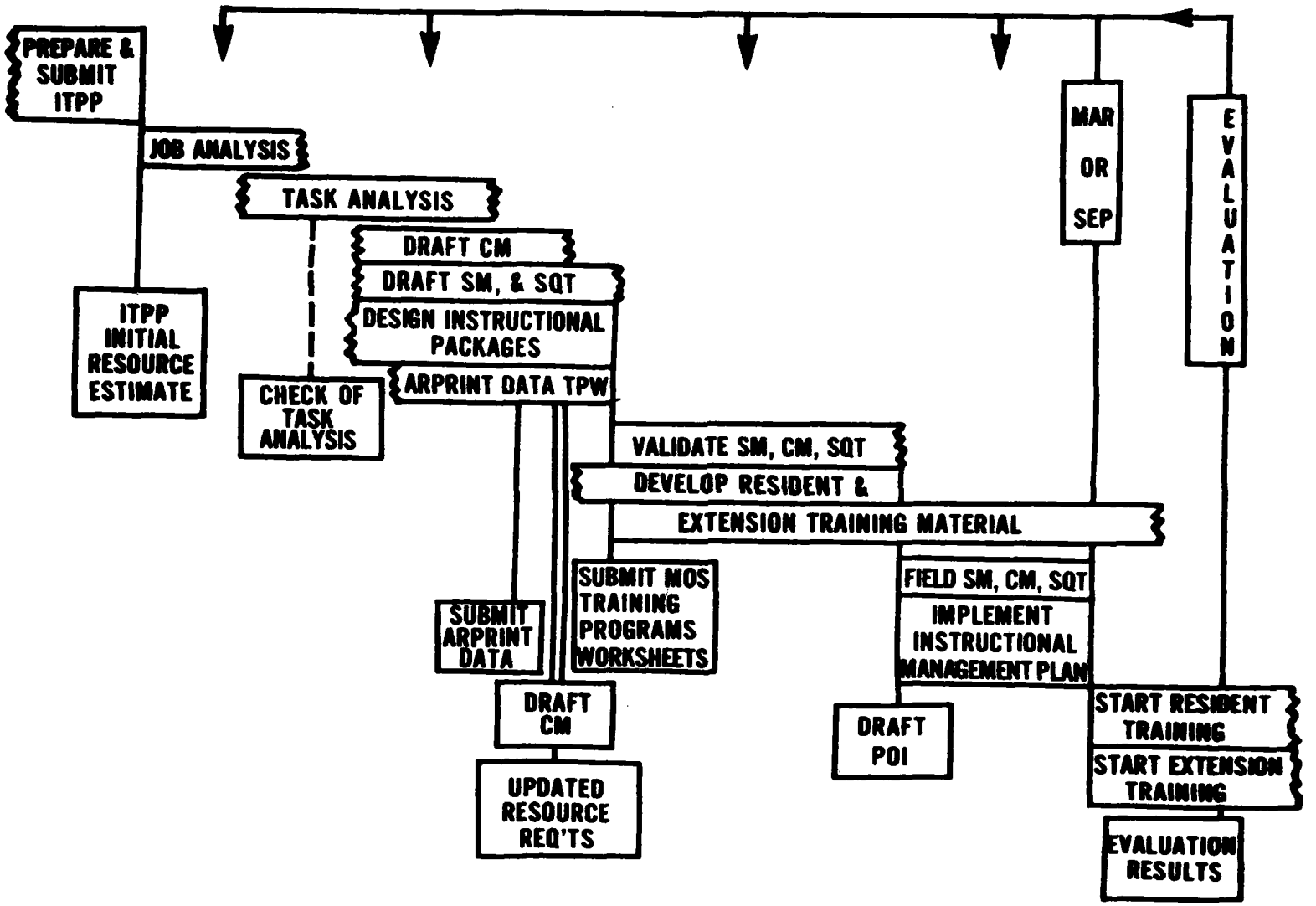
EVALUATION RESULTS

INFORMATION REQUIRED	WHY REQUIRED	HQ TRADOC ACTION	WHEN SUBMITTED
NO SPECIFIC SUBMISSION REQUIREMENTS	PROVIDE FEEDBACK TO TRADOC ON PROGRAM EFFECTIVENESS	EXAMINE TRAINING PROGRAMS TO INSURE THAT THE DESIRED RESULTS ARE OBTAINED	WHEN WARRANTED BASED ON SITUATION



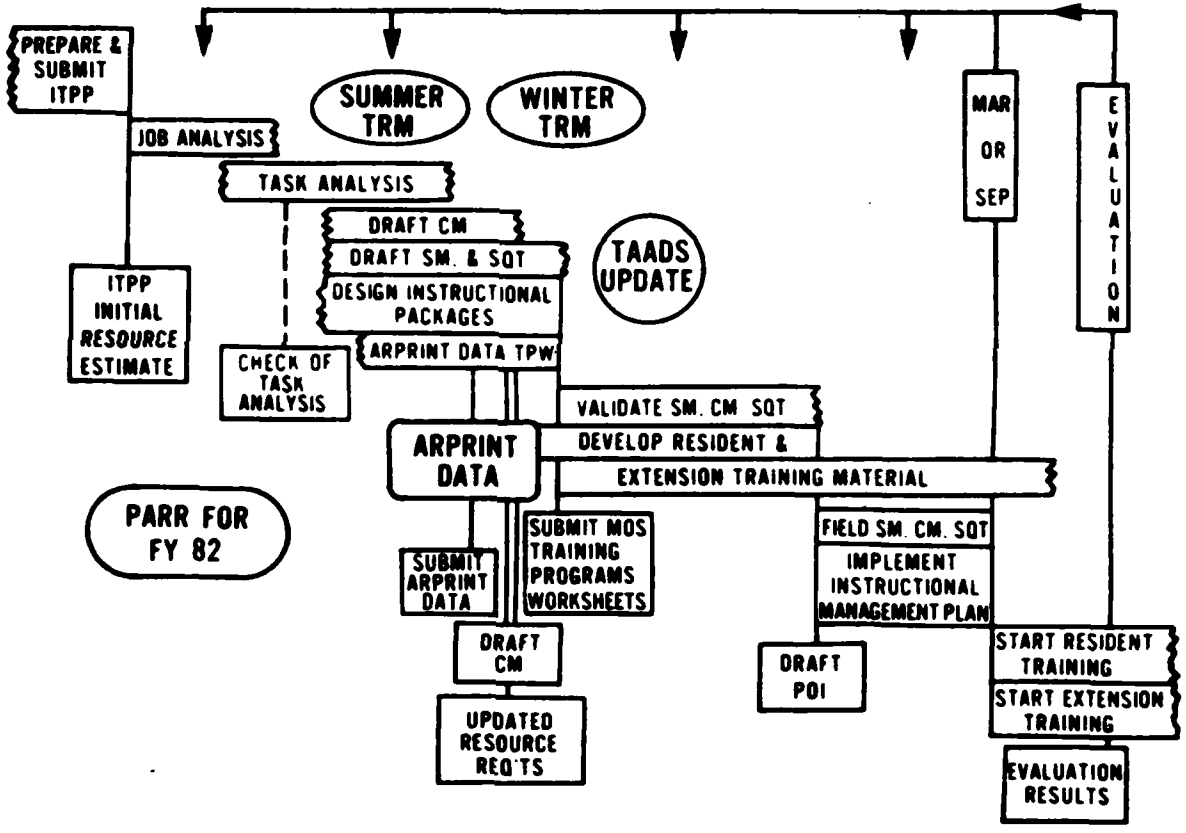
RESOURCE WINDOWS FOR MAR 82 IMPLEMENTATION

INDIVIDUAL TRAINING PLAN MODEL



12-34

INDIVIDUAL TRAINING PLAN MODEL



MILESTONES

12-36

- BEGIN TRAINING PROGRAM — MAY 79
- FINALIZE TRADOC CIRCULAR, 351-3 — JUN 79
- BEGIN IMPLEMENTATION — OCT 79

38

ITP IMPLEMENTATION SCHEDULE

1 OCT 79	INF SCH	ARM SCH	FA SCH	AD SCH	AVN SCH	ENG (2)	IMA
1 NOV 79	INTEL SCH (2)	QM SCH	TRANS SCH	SIG SCH	MP SCH	OD&CM SCH	MM SCH
1 DEC 79	DEF INFO & ADMINCEN SCH	SMA	CHAP SCH	AHS	SCH OF MUSIC	DLI	OETC

12-37

IMPLEMENTATION GOALS

STARTING OCT 79:

ONE MOS PER SCHOOL ENTERED INTO THE ITP SYSTEM

THEN:

SCHOOLS PROVIDE IMPLEMENTATION PLANS FOR ADDITIONAL MOSs

BY OCT 82:

ALL MOS INTEGRATED INTO THE ITP SYSTEM

AND:

MOS ENTER THE SYSTEM NATURALLY BASED UPON NEW TRAINING REQUIREMENTS (NEW SYSTEMS, CHANGE TO MOS STRUCTURE, ETC.)

12-38

40

ITP "CARRY AWAY MESSAGES"

- MINIMUM NEW SUBMISSIONS
  - ITPP - PLANNING DOCUMENT
  - UPDATED RESOURCE REQUIREMENTS - REFINE OF PREVIOUS ESTIMATES
  - MOS TRAINING PROGRAMS WORKSHEETS - EXTENSION TRAINING DOCUMENT
- HQ TRADOC WILL NOT SECOND GUESS COMMANDANTS
- SOME SCHOOLS HAVE IMPLEMENTED MANY PARTS OF THE CONCEPT
- IMPLEMENTATION WILL FOCUS ON SCHOOL NEEDS/CENTRAL BATTLE PRIORITY
- GENERAL AGREEMENT THAT A SYSTEM OF THIS TYPE IS NEEDED
- THE ITP IS PART OF THE TRAINING REQUIREMENTS ANALYSIS SYSTEM. TRAS WILL ASSIST THE TD COMMUNITY TO INTERFACE WITH THOSE SYSTEMS WHICH SUPPORT TRAINING.

SPECIAL FORCES 12B TASK SELECTION PROCESS

TASK SELECTION BOARD SOP

PURPOSE: SELECT TASKS - NOT SITE

METHODOLOGY FOR SELECTION: CONSENSUS BY BOARD
APPROVAL BY COMMANDANT

COMPOSITION OF BOARD: 8 VOTING
4 NON-VOTING

2A

TASK SELECTION BOARD

NON-VOTING:

1.	PRESIDENT	DEPUTY ASSISTANT COMMANDANT
2.	SF12B PROJECT OFFICER	TRAINING ANALYSIS DIVISION
3.	SF12B PROJECT OFFICER	TRAINING ANALYSIS DIVISION
4.	RECORDER	TRAINING ANALYSIS DIVISION

VOTING:

1.	DIRECTOR OR DESIGNATED REP (LTC OR CIV EQUIVALENT)	DOE
2.	DIRECTOR OR DESIGNATED REP (LTC OR CIV EQUIVALENT)	SFS
3.	DIRECTOR OR DESIGNATED REP (LTC OR CIV EQUIVALENT)	DTD
4.	DIRECTOR OR DESIGNATED REP (LTC OR CIV EQUIVALENT)	DCD
5.	ACofS OR DEPUTY G3	JFK
6.	ENGINEER OFFICER	JFK
7.	ENGINEER SERGEANT	JFK
8.	CSM	JFK

DATA COLLECTION:

- DEMOGRAPHIC DATA
- SQT RESULTS
- TENTATIVE TASK LIST
- SURVEY
- OBSERVATION
- SUBJECT MATTER EXPERTS

TASK SELECTION MODELS USED:

- WARTIME-PEACETIME
- DIF
- TRAIN-NO TRAIN
- TRAINING EMPHASIS

DEMOGRAPHIC DATA

The demographic data for the Special Forces Engineer (SF 12B) were derived from a random sample of 146 SF 12B's. Averages and medians were computed for the overall sample, and for segments divided by grade.

SF 12B OVERALL DATA

Skill Level: SL 4 - 13.1%
SL 3 - 20 %
SL 2 - 33.1%
SL 1 - 33.8%

Average Skill Level = 2

Median Skill Level = 2

AGE:	Average = 25.8 Years	Median = 24 Years
NATIVE LANGUAGE:	English = 98%	Other = 2%
TIME IN SERVICE:	Average = 6.52 Years	Median = 4.33 Years
TIME IN GRADE:	Average = 1.88 Years	Median = .92 Years
GT SCORES:	Average = 119.08	Median = 118
AE SCORES:	Average = 111.1	Median = 111
CO SCORES:	Average = 122.45	Median = 123
ST SCORES:	Average = 118.4	Median = 118

SF 12B DATA BY GRADE

(Note: Only one E-2 and one E-8 were included in the random sample; therefore, the data pertaining to these grades was not significant. All others fell between grades E-3 and E-7).

E-3	AVERAGE	MEDIAN
AGE:	20.4 Years	21 Years
TIME IN SERVICE:	1.88 Years	1.92 Years
TIME IN GRADE:	.73 Years	.83 Years
GT SCORES:	120.3	121.5

E-3	AVERAGE	MEDIAN
AE SCORES:	Test not administered.	
CO SCORES:	119.5	116
ST SCORES:	121.8	121.5

E-4	AVERAGE	MEDIAN
AGE:	21.4 Years	21 Years
TIME IN SERVICE:	2.35 Years	2.17 Years
TIME IN GRADE:	.64 Years	.67 Years
GT SCORES:	121.9	123
AE SCORES:	Test not administered.	
CO SCORES:	123.5	125.5
ST SCORES:	120.7	120

E-5	AVERAGE	MEDIAN
AGE:	23.9 Years	23 Years
TIME IN SERVICE	4.6 Years	4.33 Years
TIME IN GRADE:	1.36 Years	1.08 Years
GT SCORES:	118.7	118
AE SCORES:	Test not administered.	
CO SCORES:	124	124
ST SCORES:	117.5	118

E-6	AVERAGE	MEDIAN
AGE:	30.2 Years	30 Years

E-6	AVERAGE	MEDIAN
TIME IN SERVICE:	11.14 Years	10.5 Years
TIME IN GRADE:	3.98 Years	4.33 Years
GT SCORES:	117.2	116
AE SCORES:	114.2	116
ST SCORES:	11.5	114

E-7	AVERAGE	MEDIAN
AGE:	34 Years	34 Years
TIME IN SERVICE:	14.4 Years	14.42 Years
TIME IN GRADE:	2.6 Years	1.67 Years
GT SCORES:	116.6	114
AE SCORES:	113.4	112.5
CO SCORES:	114	119.5
ST SCORES:	Test not administered.	

COMPOSITION OF TESTS

GT = AR + WK

ST = AR + MK + GS

CO = AD + AR + SP + SI + CC

AE = Has Been Replaced by CO

AD = ATTN to Detail

WK = Word Knowledge

AR = Arithmetic Reason

SP = Space Perception

MK = Math Knowledge

GS = General Science

SI = Shop Information

CC = Classification Inventory

ATSU-TD-TAD

MEMORANDUM THRU Director, DTD

FOR Assistant Commandant

SUBJECT: Summary SQT Report

1. This office has received the summary SQT reports for the 12B (Engineer) MOS for Armywide, XVIII Airborne Corps, and JFK Center for Military Assistance. These summaries include soldiers scored between 16 June 1979 and August 1979.

SKILL LEVEL 2 (SQT 2)

	POP SCORED	QUALIFIED #	QUALIFIED %	VERIFIED #	VERIFIED %	FAILED #	FAILED %
ARMY	4584	610	13.0	1831	40.0	2143	47.0
XVIII Corps	400	91	22.7	197	49.2	112	27.9
JFK Cen	40	29	72.5	9	22.5	2	5.0

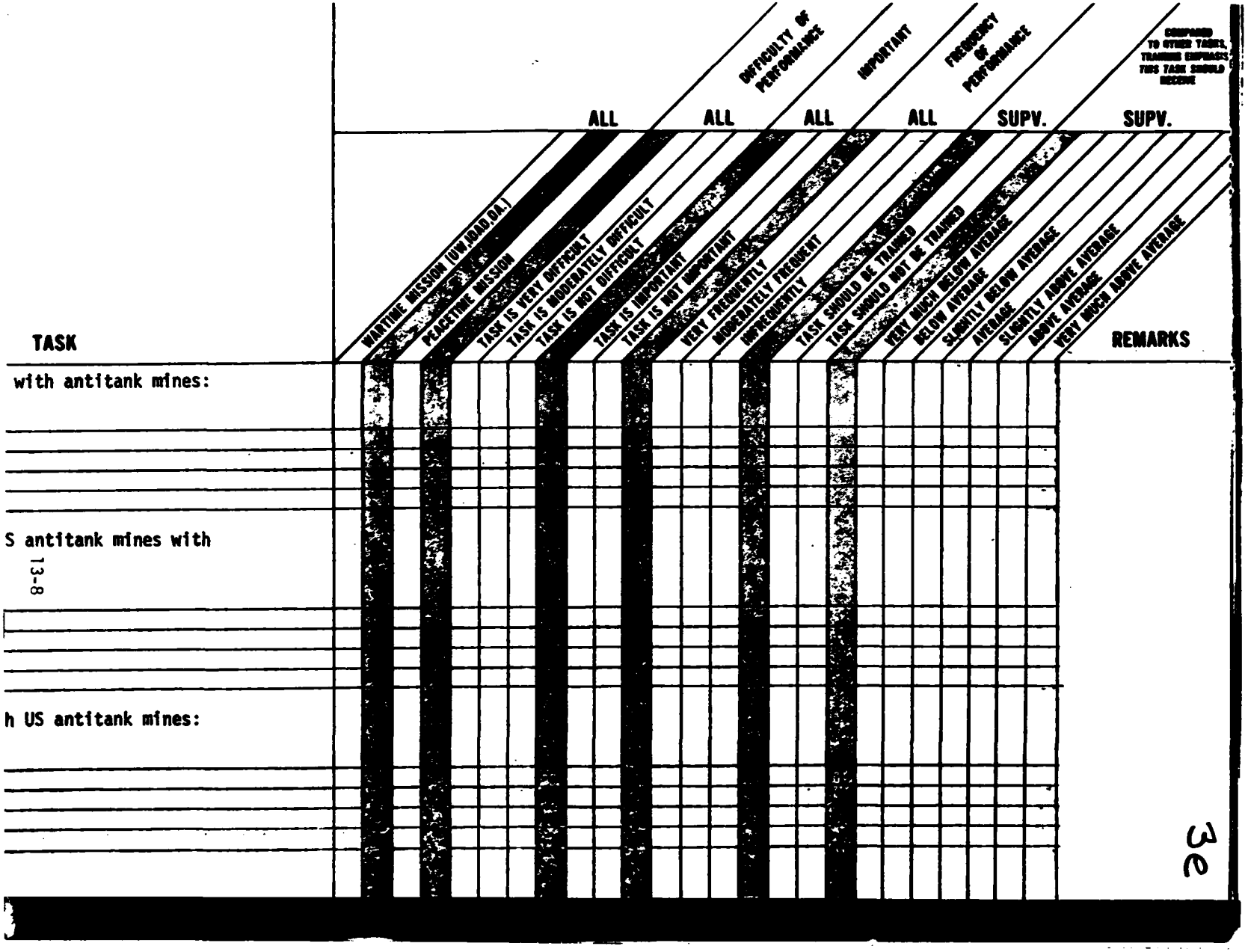
SKILL LEVEL 3 (SQT 3)

	POP SCORED	QUALIFIED #	QUALIFIED %	VERIFIED #	VERIFIED %	FAILED #	FAILED %
ARMY	1032	168	16.0	437	43.0	427	41.0
XVIII Corps	101	13	12.8	46	45.5	42	41.0
JFK Cen	20	5	25.0	14	70.0	1	5.0

SKILL LEVEL 4 (SQT 4)

	POP SCORED	QUALIFIED #	QUALIFIED %	VERIFIED #	VERIFIED %	FAILED #	FAILED %
ARMY	849	156	18.0	337	40.0	356	42.0
XVIII Corps	74	9	12.1	35	47.2	30	40.0
JFK Cen	21	3	14.2	11	52.3	7	33.2

NOTE: JFK Scores are used in the computation of both Army and XVIII ABN Corps Summaries.


ALL
ALL
ALL
ALL
SUPV.
SUPV.
DIFFICULTY OF PERFORMANCE
IMPORTANT
FREQUENCY OF PERFORMANCE
COMPARED TO OTHER TASKS, TRAINING EMPHASIS THIS TASK SHOULD RECEIVE
WARTIME MISSION (UW/ADAD,DA,)
PEACETIME MISSION
TASK IS VERY DIFFICULT
TASK IS MODERATELY DIFFICULT
TASK IS NOT DIFFICULT
TASK IS IMPORTANT
TASK IS NOT IMPORTANT
VERY FREQUENTLY
MODERATELY FREQUENT
INFREQUENTLY
TASK SHOULD BE TRAINED
TASK SHOULD NOT BE TRAINED
VERY MUCH BELOW AVERAGE
BELOW AVERAGE
SLIGHTLY BELOW AVERAGE
AVERAGE
SLIGHTLY ABOVE AVERAGE
ABOVE AVERAGE
VERY MUCH ABOVE AVERAGE
TASK
REMARKS
with antitank mines:
S antitank mines with
h US antitank mines:

INCUMBENTS

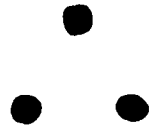
TASK	PEACE	COMBAT	NEG	OT	T	NT
13. INSTALL BOOBY TRAPS	17	51	2	33	12	4
14. NEUTRALIZE BOOBY TRAPS	21	50	2	38	8	3

SUPERVISORS

PEACE	COMBAT	NEG	OT	T	NT	%	MTE
8	14	1	11	2	0	85.7	5.1
9	15	0	13	2	0	93.3	5.5

OVER 300 TASKS ON TENTATIVE TASK LIST

TOO MANY VARIABLES



NEED COMPUTER ASSISTANCE

JOB ANALYSIS RESULTS

COMPUTER ANALYSIS RESULTS:

PROVIDED BOARD WITH STATISTICAL DATA ON TASKS
SUGGESTED NONSELECTION OF HEAVY EQUIPMENT TASKS + OTHERS

BOARD PROCEEDINGS:

BOARD CONSIDERED EACH TASK
WAS NOT CONSIDERABLY INFLUENCED BY COMPUTER DATA
SELECTED HEAVY EQUIPMENT TASKS

ANALYST RECOMMENDATIONS:

APPROVE BOARD SELECTED TASKS
EXCEPT FOR
HEAVY EQUIPMENT TASKS

COMMANDANT'S DECISION:

APPROVED ANALYST RECOMMENDATIONS

7

SUMMARY SHEET

TO					FOR			Office of Preparation
	1	SK	6	AC		6,7	Approval	TAD, DTD OK gm
	2	DOE	7	Comdt			Signature	
	3	DOE					Information	Grade, Name - Action Off
	4	G-3,JF				4,5	Concurrence	1LT Rendeiro
	5	DAC						Telephone - 68904

File	Subject	Date
ATSU-TD-TAD	Request for Approval of Tasks Selected for Training - SF 12B Engineer	13 Nov 79

1. PURPOSE: To obtain the Commandant's approval of the Report of Proceedings-SF 12B Engineer Task Selection Board (TAB A) and the list of tasks selected for training for the Special Forces 12B Engineer MOS (Inclosure 1 to TAB A).

2. BACKGROUND:

a. Analysis of the SF 12B MOS was initiated in March 1979 at the direction of the Commandant. Initial research, consultation with/interviews of subject matter experts (SME), and development of a tentative task list were completed in May 1979.

b. A survey of SF 12B incumbents and supervisors was developed and fielded in August/September 1979. The results of this survey were tabulated and formatted by USAIMA computer capabilities.

c. SF 12B demographic and SQT performance data were gathered and analyzed.

d. A Task Selection Board was held on 22-23 October 1979 to select tasks for training for the SF 12B MOS.

3. DISCUSSION:

a. The changes to the tentative task list as presented to the Task Selection Board are listed in the Report of Proceedings (TAB A), along with the Board's rationale for each of these changes.

b. The list of tasks selected for training by the Board is included with the Report of Proceedings (Inclosure 1 to TAB A).

c. Although feasibility of training was not a valid reason for rejection of tasks for training, it was evident that the Board did not agree on a sound rationale for selecting those tasks comprising the duty "Operate and maintain heavy equipment" (See Para 3b(6) of TAB A). The equipment involved is not part of the TOSE inventory of Special Forces units, nor is operation of this equipment a Special Forces mission. Furthermore, if this equipment were to become available to Special Forces units in the field, trained operators would also be available in most cases.

d. The task selection process will be completed with the Commandant's approval.

FB Form 1840-R
1 Jul 74 (CMA)
Previous editions of this form are obsolete.

Creeping Time Criteria

Many of the objectives I review include a time limit (criterion) as part of the standard (e.g., "within five minutes", "in no more than 20 seconds"). Sometimes I feel that what the writer really wants to say is "time isn't really all that important when doing the task, just don't take too long." To convey this, (usually accompanied with a bit of frustration) the writer conjures up a time standard. Or, when other criteria seem "fuzzy", or not easily measureable, a time criterion is sometimes written so that the objective is "complete". For whatever reasons, the use of arbitrary time standards is costly because:

- an unnecessarily high rate of performance may be imposed upon the performer because of the short amount of time to do the task.
- it may preclude the use of job aids, thus requiring training-to-recall when little or none is really needed.
- the rate of errors may increase because of stress or the high rate requirement.
- relevant criteria may be obscured (completeness, accuracy, etc.) because of the emphasis on time.

Evaluating Time Standards

Three factors must be considered when evaluating time standards.

1. Tasks steps i.e., completeness, sequence, accuracy, etc.
2. Consequence of error i.e., will something "bad" happen if the steps are not performed, or not performed completely, accurately, etc.
3. Time. Is there an assumed time interval during which the task must be completed?

The decision table below states the logic:

WHEN	IF	AND CONSEQUENCE:	THEN TIME STANDARD:
time limit occurs	·nothing is done and/or ·steps are not completed	occurs	is valid
		does not occur	is not valid

For example, the standard might state "camoflauge the truck in 15 minutes". If it's not completed in 15 minutes, what happens? Nothing! Is time a valid standard? No!

Another typical example is "don the protective mask in 9 seconds". If all steps are not completed, is there a serious consequence in 9 seconds? Yes! Is the time standard valid? Yes! To sum it up, if time is a valid standard, then the steps (completeness, accuracy, etc.) and the time limit must be met.

Administrative/Production Requirements

If a time standard is not valid, how do we indicate that we don't want the performer to take too long? After all, if the time taken to do a task is excessive, it may cost money or time. For this reason it may be useful to set a time limit. However, this should be expressed in the "conditions" part of an objective. Why? Because a standard should indicate if a task is done adequately. If the time limit isn't met and there are no serious consequences then other factors (completeness, accuracy) must be used to determine task adequacy - "time" tells us nothing.

Here's another way of making the distinction:

TIME STANDARD	ADMIN/PRODUCTION TIME CONDITION
- Not negotiable - there is an absolute time limit which must be met or consequences will occur.	- is negotiable - changing the time limit has no effect on the consequences of error.
- Consequence occurs immediately at the end of time limit	- no immediate consequence.
- Not arbitrary - based on data.	- arbitrary - not data based, i.e. someone "feels" that the limit is necessary or it's based on production, etc.
- Appears as standard because it enables judgement of the adequacy of the performance.	- Appears as a condition because it is a "given", i.e., a constraint under which the task is performed.

Admin/Production time conditions should be used cautiously. An increase in personnel or reduced production requirement can change the time required to do a task, but a performance based time standard has some minimal amount of time during which a task must be performed. This time requirement remains constant even if admin/production requirements change.

In Summary

Someone once said that "work tends to fill all of the time available for it". In another sense "a time criterion can tend to fill all of the 'objective' available for it." Creeping time criteria can tend to "bloat" objectives or, at least, put them under "slight" pneumatic pressure! By carefully analyzing the need for a performance based time standard we can be sure that the relevant criteria are emphasized in the objective.

JOB AID JOB AID

DURING THE NEXT FEW MINUTES WE WILL DISCUSS AND WORK WITH A JOB AID JOB AID WHICH WILL HELP YOU DECIDE WHEN TO USE JOB AIDS. SOME OF THE MATERIALS AND CONCEPTS ARE DERIVED FROM THE HARLESS PERFORMANCE GUILD'S JOB AIDS WORKSHOP WHICH I CONSIDER TO BE A HIGH TECHNOLOGY, STATE-OF-THE ART PACKAGE. FIRST, LET'S SET THE CONTEXT FOR MAKING THE JOB AID DECISION. THE PRODUCT OF ALL OF OUR EFFORTS IS SOLDIER ON-THE-JOB PERFORMANCE. BY PERFORMANCE I MEAN THE THINGS THAT PEOPLE DO. THE CHALLENGE TO US IS HOW TO GET THAT PERFORMANCE MOST EFFECTIVELY AND EFFICIENTLY. IN YOUR EXPERIENCE, WHAT ARE SOME OF THE VARIABLES OR FACTORS THAT CAN INFLUENCE A GIVEN SOLDIER'S PERFORMANCE?

HERE ARE SOME EXAMPLES:

THESE INFLUENCES CAN BE CATEGORIZED IN THREE CATEGORIES, SKILLS AND KNOWLEDGES, ENVIRONMENT, AND MOTIVATION, INCENTIVE AND ATTITUDE. WHICH ONES ARE WE MOST INTERESTED IN AS TRAINERS? TRAINING, OF COURSE. BUT I SUBMIT TO YOU THAT ALL OF THE CATEGORIES MUST BE CONSIDERED IF WE ARE GOING TO GET THE DESIRED SOLDIER PERFORMANCE. IN OTHER WORDS, IF WE HAVE A PROBLEM, WE SHOULD NOT JUMP TO CONCLUSIONS THAT TRAINING IS THE ANSWER BUT SHOULD CONSIDER IF THERE ARE OTHER REASONS

FOR A PERFORMANCE DEFICIENCY. ANYHOW, IF OUR EMPHASIS IS ON TRAINING, I THINK THAT THERE ARE THREE WAYS THAT WE CAN TRAIN: 1) WE CAN INSTRUCT. 2) PROVIDE JOB AIDS, OR 3) DO A COMBINATION. THE DECISION, IN OTHER WORDS, IS PUT IT IN THEIR HEADS OR PUT IT IN THEIR HANDS. TODAY WE WILL DISCUSS SOME CRITERIA THAT CAN HELP YOU MAKE THIS DECISION SOMETIMES CALLED THE "HEAD - BOOK" TRADEOFF. THE KEY DIFFERENCE IS TO RECALL OR NOT TO RECALL! TO MAKE THE JOB AIDS VERSUS INSTRUCTION DECISION, WE MUST CONSIDER THE PERFORMANCE, WHICH WILL TELL US WHETHER OR NOT THERE IS A NEED FOR RECALL.

LET'S CONSIDER SOME FACTORS IN ISOLATION. CONSIDERED BY THEMSELVES, DO THEY INDICATE THE NEED FOR RECALL OR JOB AID?

FREQUENCY... (ENOUGH TO INVEST IN RECALL?)

AMOUNT...

COMPLEXITY (DIFFICULTY)...EVEN SIMPLE PARAGRAPHS CAN REQUIRE COMPLEX DECISIONS.

CONSEQUENCES OF ERROR... MISS A STEP, FORGET A STEP DO THE WRONG STEP ETC...

TIME CRITERIA

PSYCHO/SOCIAL BARRIERS... WE TEND TO REWARD REMEMBERING NOT PERFORMANCE.
EX. DOCTOR.....PILOT

PHYSICAL BARRIERS

METHOD WILL CHANGE

BUDGET

PSYCHOMOTOR WE HAVE TO TRAIN PEOPLE TO DO MOTOR SKILLS, RIGHT? (ONLY FINE MOTOR!)

FOR EXAMPLE.....

IT WOULD BE NICE IF A GIVEN TASK ONLY INVOLVED ONE OF THE FACTORS, BUT THAT IS NOT THE WAY THINGS ARE. THESE VARIABLES INTERACT WITH EACH OTHER. IN FACT, IF YOU CONSIDER ALL THE FACTORS SUGGESTED IN THE LITERATURE FOR MAKING THE HEAD BOOK DECISION, THERE IS A TOTAL OF 1,153,536 POSSIBLE COMBINATIONS- WHILE NOT AN INFINITE NUMBER IT IS CERTAINLY ENOUGH TO DISCOURAGE EVEN THE MOST ARDENT ANALYST.

MAYBE THIS WILL HELP EXPLAIN IT:

"WHENEVER THERE ARE SKILL/KNOWLEDGE DEFICIENCIES TO BE OVERCOME THAT HAVE SOME COMBINATION OF HIGH ERROR CONSEQUENCES, LARGE AMOUNTS OF BEHAVIOR, INFREQUENT BEHAVIOR, A POSSIBILITY OF CHANGING PERFORMANCE METHODS, AND/OR A LIMITED BUDGET OR TRAINING TIME, THEN JOB AIDS SHOULD BE EMPLOYED. HOWEVER, JOB AIDS SHOULD NOT BE EMPLOYED IF THERE IS A SEVERE TIME CRITERION FOR THE TASK, THE TASK IS VERY FREQUENTLY PERFORMED OR THERE ARE IMPORTANT PSYCHO/SOCIAL AND OR PHYSICAL BARRIERS. IN THOSE CASES, PURE INSTRUCTION TO RECALL MUST BE RELIED ON - UNLESS THOSE CONSTRAINTS CAN SOMEHOW BE MINIMIZED".

OR HOW ABOUT A JOB AID JOB AID?

I WOULD LIKE TO GIVE YOU AN OPPORTUNITY TO TRY OUT THE JOB AID WITH SOME MATERIAL....

GIVEN: A TASK THAT IS DEFICIENT DUE TO LACK OF SKILL/KNOWLEDGE.

IF	AND	THEN
Is performed INFREQUENTLY (so that the investment in recall will be lost).	One of these is NOT present or CAN be minimized: *Severe Time CRITERION *Performed FREQUENTLY *PSYCHO/SOCIAL barriers *PHYSICAL barriers	Consider developing a JOB AID as a primary way of influencing performance.
Has a large AMOUNT of steps and/or is VERY DIFFICULT to perform.		
Has severe CONSEQUENCES of error.		
METHOD of performance is likely to change.		
Training in the task must occur quickly OR a very low training budget.		
Has severe TIME CRITERION	The barriers to job aid use cannot be minimized in some way	DO NOT use job aids as a means of influencing performance.
Is performed very FREQUENTLY (investment in recall will be worth it).		
Has PSYCHO/SOCIAL barriers.		
Has PHYSICAL barriers.		

DECIDE WHETHER A JOB AID SHOULD BE DEVELOPED FOR EACH OF THE SITUATIONS BELOW AND GIVE YOUR REASON (S):

1. CLERK CANNOT TYPE, BUT NEEDS TO... YES ☐ NO ☐ WHY_____

2. CLERK CANNOT SPELL TECHNICAL WORDS... YES ☐ NO ☐ WHY_____

3. PERSONNEL PEOPLE MUST DECIDE APPROVAL AUTHORITY FOR TRANSFER OR ASSIGNMENT TO THE RETIRED RESERVE. YES ☐ NO ☐ WHY_____

4. TECHNICIAN TROUBLESHOOTING AND REPAIRING COMMUNICATIONS GEAR.... YES ☐ NO ☐ WHY_____

5. RIFLEMAN MUST TAKE IMMEDIATE ACTION ON HIS WEAPON. YES ☐ NO ☐ WHY_____

6. 50 ITEM TRADOC FORM XYZ MUST BE FILLED OUT 4 TIMES A YEAR. YES ☐ NO ☐ WHY_____

7. ANALYST MUST DECIDE IF A TASK SHOULD BE JOB-AIDED. YES ☐ NO ☐ WHY_____

8. Technician must identify resistor values while troubleshooting. YES ☐ NO ☐ WHY_____

DETERMINE RESISTOR VALUE

INTRODUCTION — Resistors are standard electronic parts which are used in many electronic devices from televisions to computers.

FUNCTION — The resistor's basic use is to oppose the flow of electric current. This opposition is measured in OHMS. (long "o").

STRUCTURE

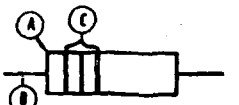


Figure 1.

(A) Resistor body - made of compressed carbon.

(B) Wire - allows for hook-up to other devices.

(C) Color bands - indicate the resistance value.

COMMENT — Carbon resistors come in a variety of sizes. Physical size determines how much heat a resistor can take. However, size has little to do with resistance. Two resistors of identical size might be 12 ohms and 12,000 ohms respectively.

● HOW TO IDENTIFY RESISTANCE VALUE

The color bands indicate the value of a given resistor. Figure 1 shows the relative positions of the color bands. Note that the first band is the one closest to the end of the resistor. This is always the case. Each color represents a number. Table 1 shows the colors and values:

COLOR	NUMBER VALUE
BLACK	0
BROWN	1
RED	2
ORANGE	3
YELLOW	4
GREEN	5
BLUE	6
VIOLET	7
GREY	8
WHITE	9

Table 1.

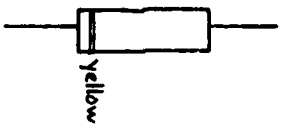
● READING THE CODE

· FIRST BAND

The first band indicates the first digit of the resistance.

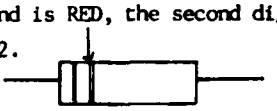
·EXAMPLE

If the first band is YELLOW, the first digit is 4.



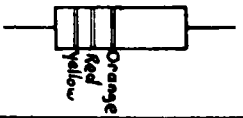
·SECOND BAND — The second band indicates the second digit of the resistance.

·EXAMPLE — If the second band is RED, the second digit is 2. So far we have 42.

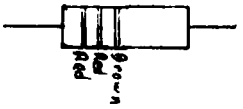


·THIRD BAND — The third band is called the "multiplier". Its color tells you how many zeroes to place after the first two digits.

·EXAMPLE — The third band is orange. It stands for 3, but in the third band it means 3 zeroes. So the total resistance is 4 2,0 0 0 Ohms.

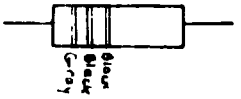


● MORE EXAMPLES



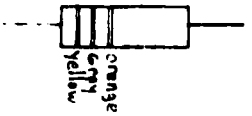
RED = 2 RED = 2 BROWN = 1 zero

TOTAL = 220 Ohms



GRAY = 8 BLACK = 0 BLACK = no zeroes

TOTAL = 80 Ohms



YELLOW GRAY ORANGE

TOTAL = 48,000 Ohms

DETERMINE RESISTOR VALUE

Now, you will be asked to identify the resistor values of four different resistors by using the job aid below.

PROCEDURE

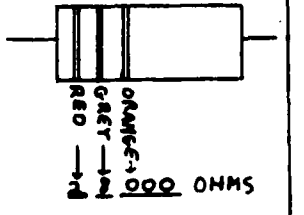
☐ STEP 1 USE TABLE A TO DETERMINE THE VALUES OF THE FIRST AND SECOND COLOR BANDS.

☐ STEP 2 USE TABLE A TO DETERMINE THE VALUE OF THE THIRD BAND (IN ZEROES).

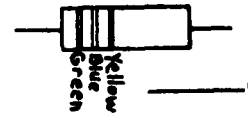
TABLE A

COLOR	VALUE
BLACK	0
BROWN	1
RED	2
ORANGE	3
YELLOW	4
GREEN	5
BLUE	6
VIOLET	7
GREY	8
WHITE	9

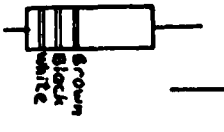
EXAMPLE



You may practice on the following examples:

1. 

_____Ohms

2. 

_____Ohms

ANSWERS:

1. 5600 Ohms

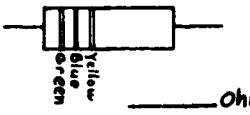
2. 900 Ohms

Now, you will be asked to identify the resistance values of four different resistors on a test. You will be required to do this from memory. To help you remember the colors and their values, use the mnemonic below:

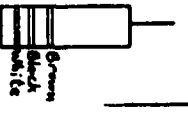
MNEMONIC	BAD	BOYS	ROB	OUR	YOUNG	GIRLS	BUT	VIOLET	GIVES	WILLINGLY
COLOR	BLACK	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GREY	WHITE
VALUE	0	1	2	3	4	5	6	7	8	9

WHAT TO DO:
1. Read the mnemonic.
2. Recite the mnemonic from recall.
3. Read the colors.
4. Recite the mnemonic and think of the colors.
5. Now, repeat the steps until you recall the values.

Now, try these exercises.

1. 

_____Ohms

2. 

_____Ohms

ANSWERS 1. 56 0000hms 2. 900 Ohms

Please do not use any of these materials during the test - use your memory.

SOMETIMES ACOMBINATION OF JOB AIDS AND INSTRUCTION IS REQUIRED, AS A MINIMUM SOME PRACTICE SHOULD BE PROVIDED IN USING THE JOB AID. HERE ARE SOME FACTORS TO CONSIDER:

*SUBTASKS REQUIRE RECALL

*GENERALIZATION IS NEEDED

REASONS "WHY" MUST BE GIVEN

*USER IS NOT FAMILIAR WITH THE TERMINOLOGY

*FINE PSYCHOMOTOR SKILLS ARE REQUIRED.

THIS JOB AID HELPS YOU TO MAKE THE DECISION BUT THE JOB AIDS WORKSHOP PROVIDES A MORE SOPHISTICATED TECHNIQUE. FINALLY HERE IS WHERE I SEE THE HEAD BOOK TRADEOFF DECISION OCCURING IN THE ISD PROCESS. STURGEON'S LAW SAYS THAT 90% OF EVERY THING IS CRAP. WE CAN AVOID INSTRUCTIONAL OVERLOAD BY SYSTEMATICALLY CONSIDERING AND IMPLEMENTING JOB AIDS IN OUR TRAINING PROGRAMS

INSTRUCTION - USE OF TEACHING STRATEGIES TO INCREASE THE PROBABILITY OF REMEMBERING THE PERFORMANCE

JOB AIDS - MATERIELS ACTUALLY USED ON THE JOB THAT GUIDE PERFORMANCE WITH MINIMUM NEED FOR RECALL

INSTRUCTIONAL STRATEGIES

- SIMULATION
- STEP SIZE
- SEQUENCES
- PRACTICE
- FEEDBACK

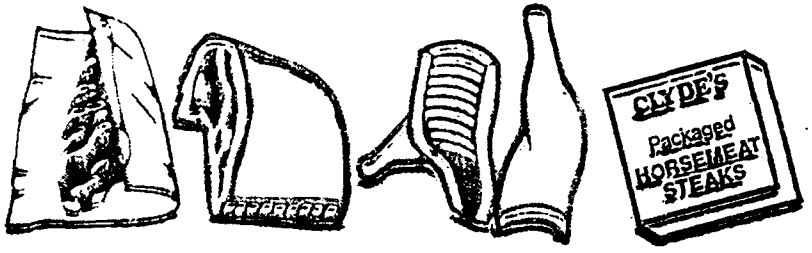
Step 4 Types of Products

Look at the product.

A. Is it individually wrapped cuts, large pieces or cuts, quarters, or packaged product?

Yes —Turn to **Step 5**

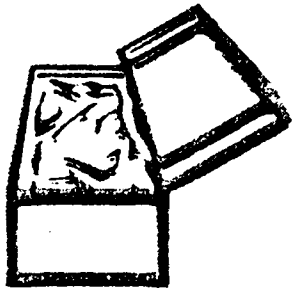
No — Continue to B.



B. Is it bulk-packed (cuts or boneless meat)?

Yes —Turn to **Step 6**

No — Continue to **C.**



C. Is it hearts, cheeks, livers, tongues, fat, etc.?

Yes —Turn to **Step 7**

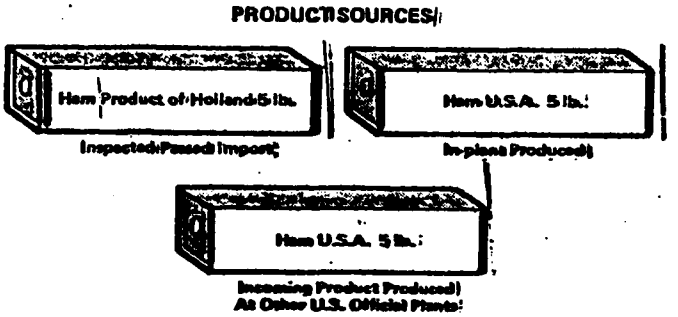
No — **Return to A, B, or C. All product must be classified in A, B, or C.**



PRODUCT PROCESSING

STEP 1

The product (which can come from one or more of three sources) has been removed from the cans.



Is the plant removing all free juices and gelatin from the product

OR

following alternative procedures, previously approved by an MPI supervisor, that are on file in the plant Government office?

NO — Retain affected product until plant removes free juices and gelatin or follows accepted alternative procedures.

When the plant complies and the product is acceptable, release the product.

GO TO STEP 2.

YES — CONTINUE.

SAMPLING

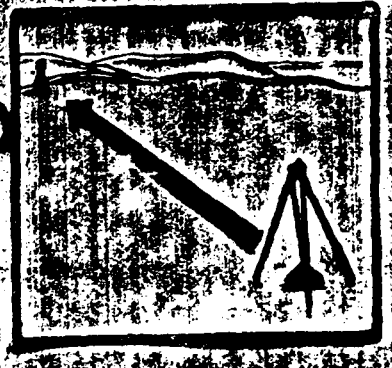
STEP 2

After processing is completed, the finished product must be sampled. The sample size and rate is one sample per 100,000 pounds production—not more than one sample every two weeks and not less than one sample per month.

Randomly select enough bulk slices of sections from one unit or enough units of packaged product to make a 1-pound sample.

1 SET-UP

- SET UP TRIPOD OVER STATION
  (POINT ONE LEG TOWARD OTHER STATION)



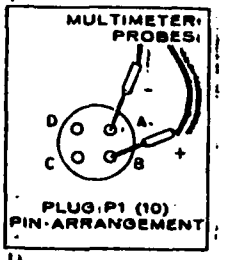


- REMOVE DME FROM CASE
- PLACE DME ON TRIPOD

2 Check voltage input to Test Set:

- Set OCU POWER ON/OFF circuit breaker (1) to OFF.
- Set power supply ON/OFF switch (8) to OFF.
- Unplug cable 271W1 plug P1 (10) from Test Set connector J1(9).
- Set power supply ON/OFF switch (8) to ON.
- Check for at least 18 volts between pins A and B of cable 271W1 plug P1(10). (See your JPG for voltage measurement instructions.)

IS VOLTAGE BETWEEN PINS A AND B AT LEAST 18 VOLTS?

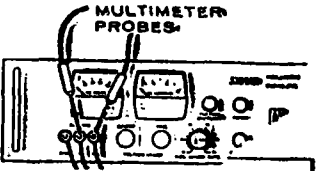


YES

NO

3 Check for at least 18 volts at power supply + and - terminals. (See your JPG for instructions on measuring voltage.)

IS VOLTAGE AT POWER SUPPLY TERMINALS AT LEAST 18 VOLTS?

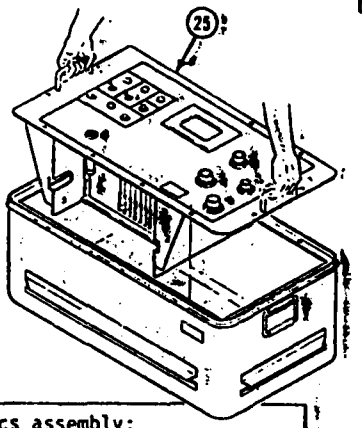


NO

4 Refer to power supply operating procedure (see your JPG).

YES

5 Replace cable 271W1. Get rid of bad cable.

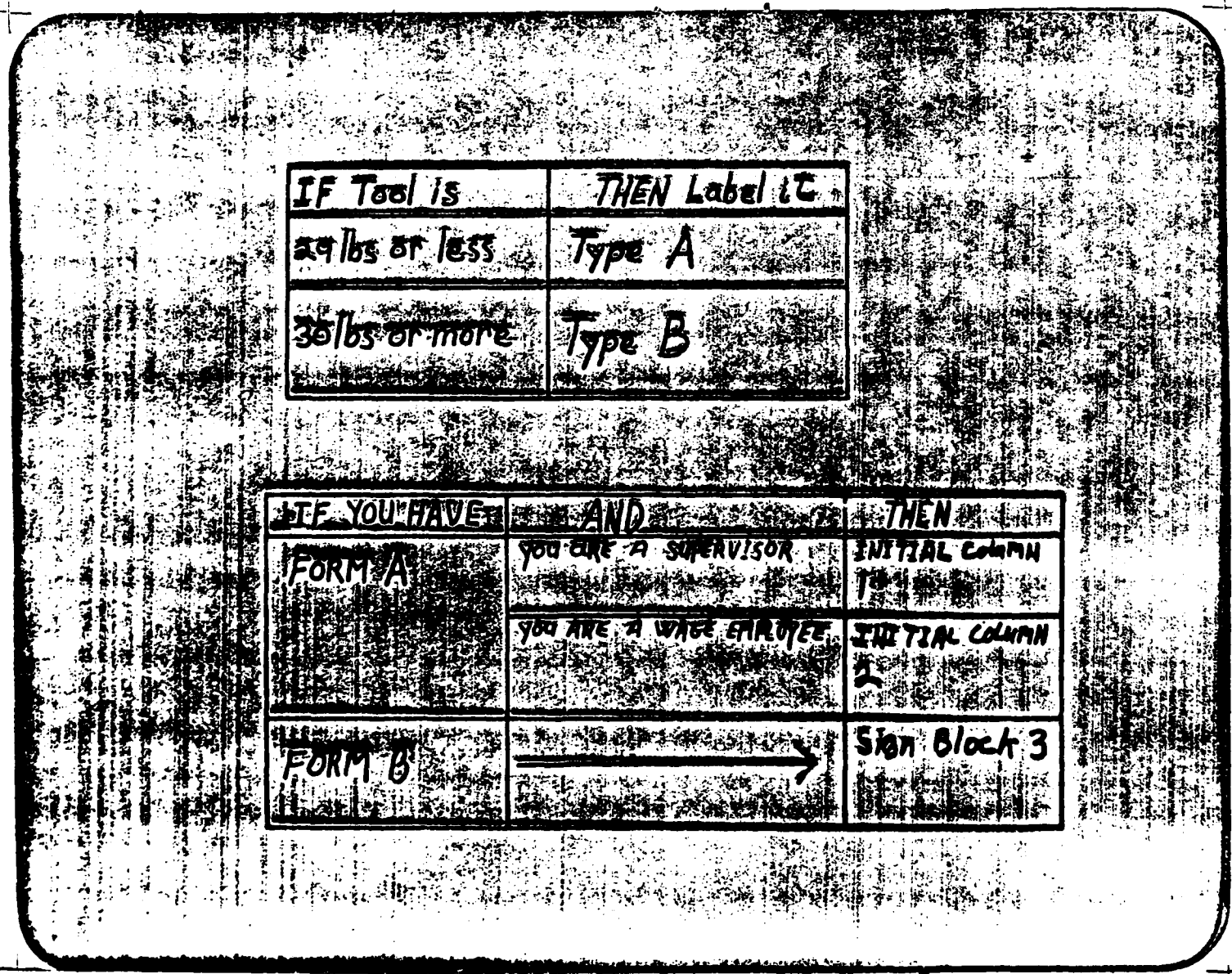


Remove OCU electronics assembly:

- Unplug cable 271W5 plug P2(12) from OCU connector J2 (11).

Remove OCU electronics assembly (25) from case (see your JPG).

Figure 6-1. Direct Support Troubleshooting (Sheet 2 of 34)



IF Tool is	THEN Label it
29 lbs or less	Type A
30 lbs or more	Type B

IF YOU HAVE	AND	THEN
FORM A	you are a SUPERVISOR	INITIAL COLUMN 1
	you are a JOURNEYMAN	INITIAL COLUMN 2
FORM B	→	Sign Block 3

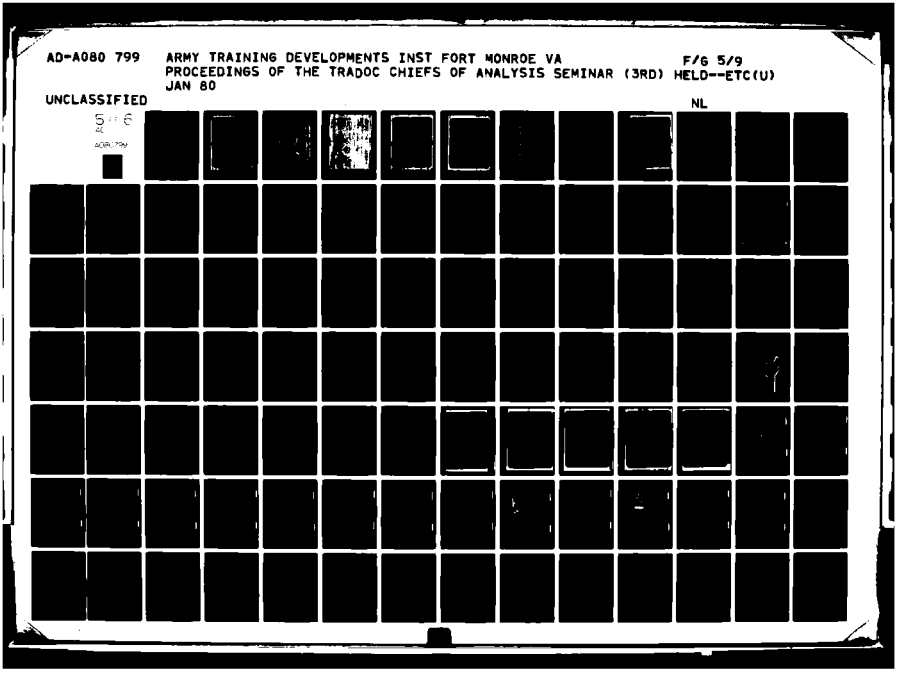
PERFORMANCE IS WHAT PEOPLE DO

EXAMPLES	NON-EXAMPLES
• REPAIR TRUCKS	• SALES THEORY
• PRESENT SALESPITCH	• REPAIRED TRUCK
• TYPE A LETTER	• SHEET MUSIC
• PLAY BONGOS	• WITHIN 20 MINUTES

GRAPHIC AIDS SERVICE CENTER WORK AI

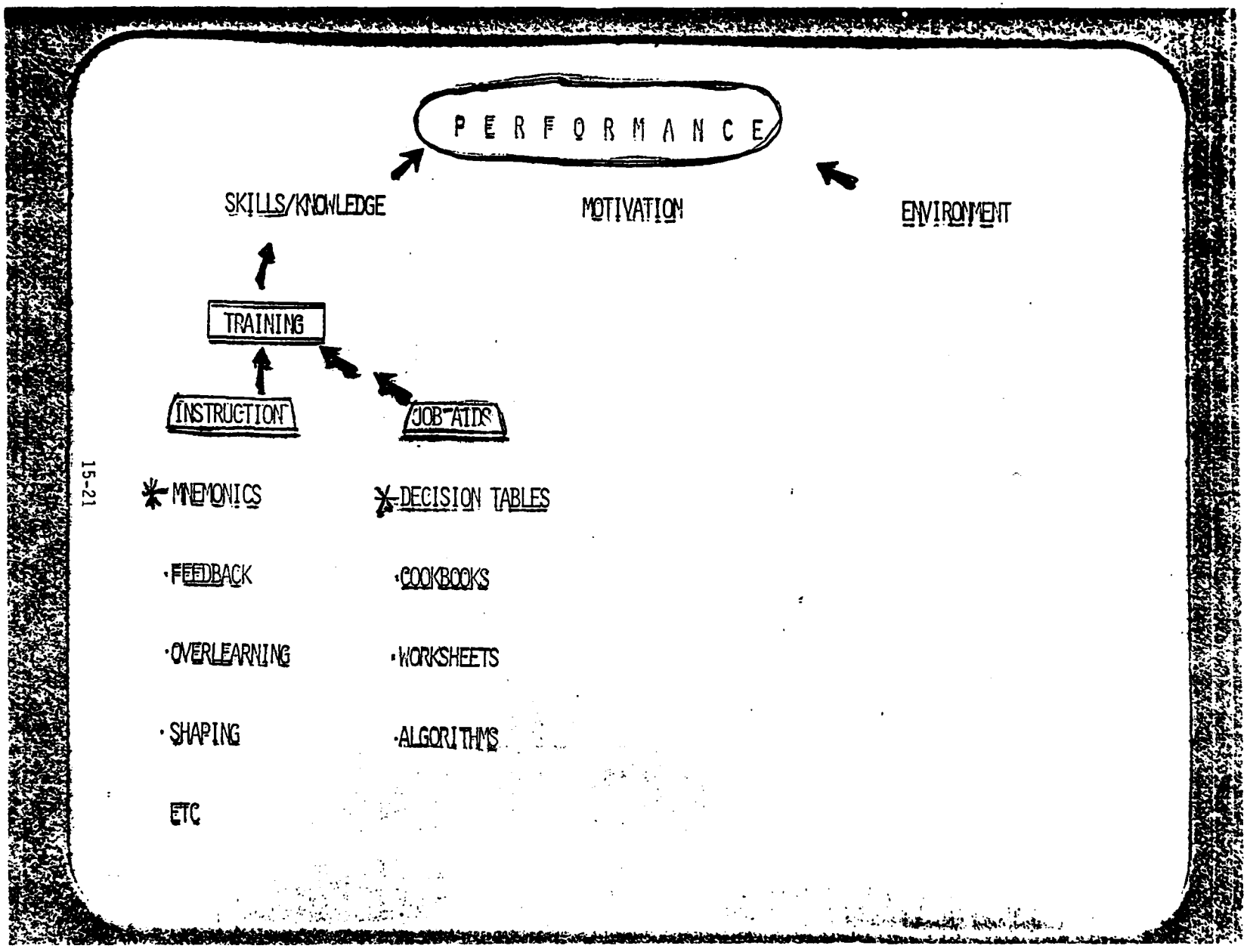
AD-A080 799 ARMY TRAINING DEVELOPMENTS INST FORT MONROE VA F/G 5/9
PROCEEDINGS OF THE TRADOC CHIEFS OF ANALYSIS SEMINAR (3RD) HELD--ETC(U)
JAN 80

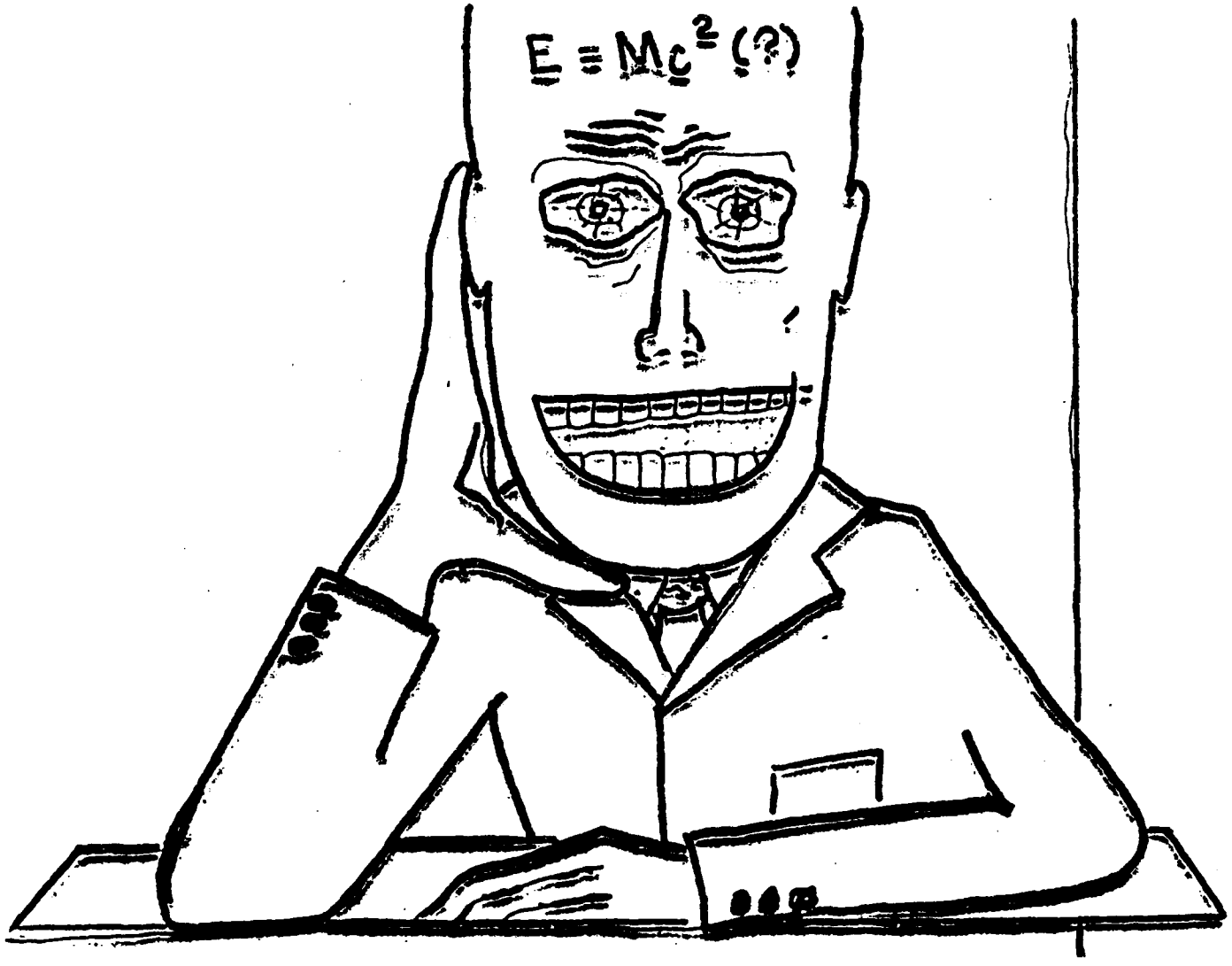
UNCLASSIFIED NL



INFLUENCES ON PERFORMANCE

SKILLS AND KNOWLEDGES	ENVIRONMENT	MOTIVATION/ATTITUDE
READING SCHEMATICS	TEMPERATURE EXTREMES	FEELINGS ABOUT WORK
TEST EQUIPMENT SET-UP	NOISE LEVEL	WILLINGNESS TO WORK OVER
RECOGNITION OF HANDTOOLS	CONFLICTING CONVERSATION	
READING INDEXES	LEADERSHIP STYLE	
RECALL SHOP PROCEDURES	ILLUMINATION	


PERFORMANCE
SKILLS/KNOWLEDGE
MOTIVATION
ENVIRONMENT
TRAINING
INSTRUCTION
JOB AIDS
*MNEMONICS
*DECISION TABLES
·FEEDBACK
·COOKBOOKS
·OVERLEARNING
·WORKSHEETS
·SHAPING
·ALGORITHMS
ETC


E = Mc² (?)

GRADUATE SERVICE CENTER

DETERMINE RESISTOR VALUE

Now, you will be asked to identify the resistor values of four different resistors by using the job aid below.

PROCEDURE

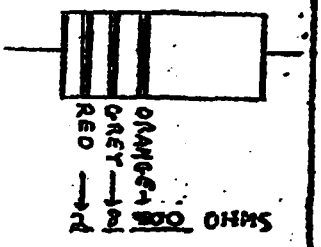
☐ STEP 1 USE TABLE A TO DETERMINE THE VALUES OF THE FIRST AND SECOND COLOR BANDS.

☐ STEP 2 USE TABLE A TO DETERMINE THE VALUE OF THE THIRD BAND (IN ZEROES).

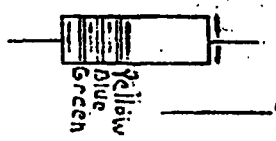
TABLE A

COLOR	VALUE
BLACK	0
BROWN	1
RED	2
ORANGE	3
YELLOW	4
GREEN	5
BLUE	6
VIOLET	7
GREY	8
WHITE	9

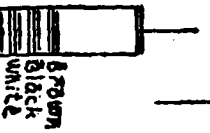
EXAMPLE



You may practice on the following examples:

1. 

_____ Ohms

2. 

_____ Ohms

ANSWERS:

1. 56400 Ohms 2. 900 Ohms

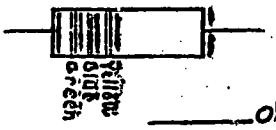
Now, you will be asked to identify the resistance values of four different resistors on a test. You will be required to do this from memory. To help you remember the colors and their values, use the mnemonic below:

MNEMONIC	BAD	BOYS	ROB	OUR	YOUNG	GIRLS	BUT	VIOLET	GIVES	WILLINGLY
COLOR	BLACK	BROWN	RED	ORANGE	YELLOW	GREEN	BLUE	VIOLET	GREY	WHITE
VALUE	0	1	2	3	4	5	6	7	8	9

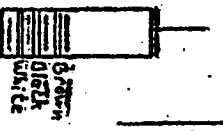
WHAT TO DO:

1. Read the mnemonic.
2. Recite the mnemonic from recall.
3. Read the colors.
4. Recite the mnemonic and think of the colors.
5. Now, repeat the steps until you recall the values.

Now, try these exercises:

1. 

_____Ohms

2. 

_____Ohms

ANSWERS: 1. 56,000Ohms 2. 900 Ohms

Please do not use any of these materials during the test – use your memory.

Frequency	R
Amount	J
Complexity	J
C of E	J
Time	R
Psycho/Social	J/R
PHYSICAL	R
Change	J

A SINGLE MAN PAYS AN ANNUAL FEE OF $10.00, UNLESS HE IS UNDER 21 IN WHICH CASE HE PAYS $6.00. A SINGLE WOMAN PAYS $8.00, UNLESS SHE IS UNDER 21 IN WHICH CASE SHE PAYS $6.00. IF SHE IS MARRIED AND UNDER 21 SHE PAYS $4.00, BUT IF SHE IS OVER 21, $5.00. A MARRIED MAN PAYS $8.00 REGARDLESS OF HIS AGE.

IF YOU'RE A	AND	AND	THEN PAY
MAN	MARRIED	→	8.00
	SINGLE	OVER 21	10.00
		UNDER 21	6.00
WOMAN	SINGLE	OVER 21	8.00
		UNDER 21	6.00
	MARRIED	OVER 21	5.00
		UNDER 21	4.00

CAN YOU .....

PRESS BRAKE

SHIFT TRANSMISSION

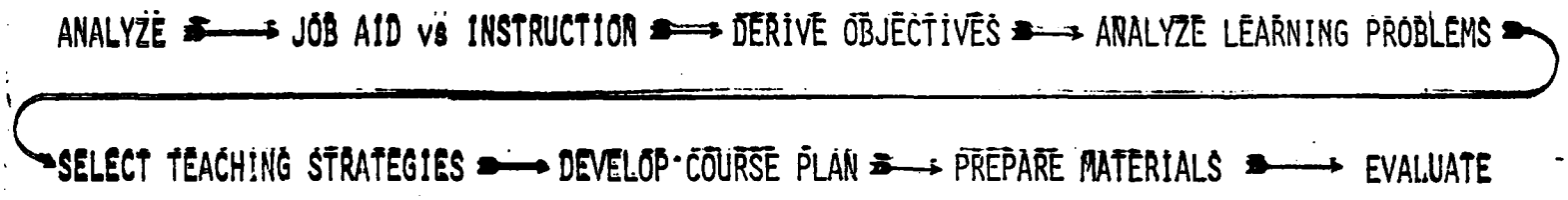
PRESS BUTTONS

TURN KNOBS

OPERATE HEATER

PUSH LEVERS

WHERE JOB AIDS FIT



(TITLE SLIDE ON)

[redacted], gentlemen. I am Mr. Seese, Chief, Training Design Branch, TDD. The purpose of this briefing is to inform you of Designs contributions to the on-going Systems Mechanic Program and incidentally depict the generic role of Design in any ISD effort. You will soon be presented with lists of tasks for resident training, selected by SME's and Design persons, to be approved and carried on through material development to implementation of training. Following on the heels of critical task selection, we want you all to be aware of the reason for this step and how it fits in the overall scheme to this point.

(TITLE SLIDE OFF)

The basis for our primary method of operation in Systems Mechanic is the Initial Entry Training philosophy expounded at the Commandants Training Strategy presentation at Ft Leavenworth in August 1979.

The objective is to:

(SLIDE ONE ON)

(TRAINING STRATEGY OBJECTIVE)

(SLIDE ONE OFF)

We intend to reach this objective by designing programs featuring the reinforcement of basic maintenance skills and knowledge common to all, or most, maintenance tasks; and by requiring the soldier to practice these skills over and over again - rather than teaching them to perform a specific maintenance task. Certain critical tasks by their very nature will also be selected and practiced, within the context of basic maintenance skill training; but all critical tasks will not be taught. Instead, these selected critical tasks and supporting skills and knowledge will be emphasized. We will see the application of this philosophy a bit later in this presentation. To put it in its proper perspective, let us begin with the place Design occupies in the ISD model.

In the ISD model, Design is the second step.

(SLIDE TWO)

(INSTRUCTIONAL SYSTEMS DEVELOPMENT MODEL)

In USAOCCS Design also includes the first two steps of development, as will be explained later.

(SLIDE TWO OFF)

Design picks up after the Critical Task List (CTL) has been boarded and approved by the CG. In actual practice, Design work has begun long before that using draft CTL's.

(SLIDE THREE)

(BULLS EYE)

Individual Training Analysis products, as depicted are forwarded to Design. (Explain and distribute sample CTL, JDW and job identification, if requested).

(SLIDE THREE OFF)

You have already heard about the multiplicity of these training packages, as indicated on this slide.

(SLIDE FOUR)

(REVISION EFFORT)

(Point out the 3500+ tasks are each represented by a task package; and that the number is now closer to 4500 or 5000).

(SLIDE FOUR OFF)

There are also additional factors affecting maintenance training as shown on this slide.

(SLIDE FIVE)

(LONG TERM FACTORS AFFECTING MAINTENANCE TRAINING)

(Point out particularly items 1 - Limited resources; 2 - need to field graduates ASAP; 4 - training in diagnostics and troubleshooting).

(SLIDE FIVE OFF)

Which caused us to look at new ways to produce training that would meet our objective? At this point, the MOS 63H10X experiment was winding down and at its final briefing it was decided to seek wider application of its successful techniques. These techniques are depicted here.

(SLIDE SIX)

(ENTRY LEVEL TRAINING)

Applying this technique to Systems Mechanic led our Design persons and SME's to review the JDW's received from ITA and list the basic skills and knowledge required to perform the tasks.

(SLIDE SIX OFF)

(SLIDE SEVEN E ON)

(BASIC SKILL & KNOWLEDGE ENCOMPASS)

(SLIDE SEVEN E OFF)

Once listed, the S & K are placed on one side of a matrix, while CTL tasks are listed on an adjacent side.

(SLIDE SEVEN)

(MATRIX)

Each skill and knowledge is then examined against each critical task and an "X" placed in the matrix if the S & K being examined is inherent in the performance of that task.

(Have sample S & K matrix available. If requested, distribute it.)

When all S & K have been examined, tasks are then chosen beginning with those requiring exercise of the greatest number of S & K. This process continues until all are satisfied that each S & K will be repeated at least 3 times. (In practice, each S & K is usually repeated more than three times by the time the least occurring S/K is repeated 3 times. If an S & K is not repeated in three different tasks, a task or tasks will be repeated until it is.)

(SLIDE SEVEN OFF)

In addition to considering basic skills and knowledges, other criteria are also examined; as shown here:

(SLIDE SEVEN A)

(S & K MATRIX CONSIDERS SOLDIER IN RELATION TO TASK)

AND

(SLIDE SEVEN A OFF)

(SLIDE SEVEN B)

(S & K MATRIX CONSIDERS TASK IN RELATION TO RESOURCES)

(Have list of additional selection criteria available for distribution, if requested)

(SLIDE SEVEN B OFF)

Tasks not selected for training will be considered for non-resident instruction if they involve unique critical skills or items of equipment. Those not selected for resident or non-resident training are fully supported skill and knowledge-wise by those selected, and no specific additional training or training products are envisioned to support them. All tasks selected for resident instruction will eventually appear in some exportable mode as part of the parallel extension training system in support of reserve components and national guard.

(SLIDE EIGHT)

(DISTRIBUTION OF TASKS SELECTED FOR TRAINING, ETC.)

Lists of tasks selected for training are furnished as shown on this slide, along with basic skills and knowledge identified.

(SLIDE EIGHT OFF)

Following receipt of lists with comments, recommendations, etc., these are reconciled; and a meeting of the Board is called to approve the lists of tasks selected for training. Upon approval, lists are forwarded to CG for his approval and for subsequent distribution and use.

The next step is writing a Terminal Learning Objective for each task (or group of tasks) selected for training. (Have sample TLO's ready; if requested, distribute.) Terminal Learning Objective with criterion statements are distributed as follows:

(SLIDE NINE)

(TLO)

(SLIDE NINE OFF)

(SLIDE TEN)

(SEQUENCE & STRUCTURE)

When TLO's have been written (along with LO's and learning steps) they are sequenced, structured and a course map drafted.

(Example: Course map, distribute if requested).

(Have example of different types of objectives to explain if necessary, but not for distribution).

Structuring considers such factors as: easy to complex; known to unknown; operational sequence; chronological sequence; small to large; whole to part, etc.).

(SLIDE TEN OFF)

It is at this point also that test items are structured into in-course tests. These will be furnished to Training Material Development Division along with other design products at the completion of the design phase. End-of-Course test construction, not being dependent on course sequence continues on until they are complete, and are forwarded directly to material developers.

In practice, at this point, the TLO (once approved at branch level) is usually transferred to a lesson worksheet and these are what are sequenced. We will get to lesson worksheets a bit later.

Following sequencing groups of objectives are matched with appropriate learning guidelines and learning activities are selected and designed.

(SLIDE ELEVEN)

(GUIDELINES AND ACTIVITIES)

11 subcategories of learning of 9-21 learning guidelines in each

Simply put, these guidelines provide reminders to the designer of the framework of instruction and the activities suggest the various means instructor and student can employ to assist (in the case of the instructor) and to reach (in the case of the student) the standard of the objective. (Distribute subcategories of learning and discuss as necessary. Distribute completed sample).

(SLIDE ELEVEN OFF)

Method and media to support the task presentation are considered next in light of what is possible, and what is required to satisfy the TLO, guidelines and activities designed.

(SLIDE TWELVE)

(SELECT METHOD & MEDIA)

There are many guides for media selection and there is one in TRADOC PAM 350-30 (a series of involved matrices);we employ a much simplier one currently published in ST 350-14-1.

(Distribute media selection chart).

(SLIDE TWELVE OFF)

All design information developed is now listed on a lesson worksheet, header and other information is added and completed packets are sent (along with guidelines and activities) to Training Materials Development Division and course tests.

(SLIDE THIRTEEN)

(LESSON WORKSHEET)

(Distribute sample lesson worksheet).

All resources compiled from design decisions (mainly from lesson worksheets) are coordinated with Training Directorate and Support Directorate and forwarded to TRADOC (as an update of the Individual Training Plan - ITP). (TRADOC Cir 351-3).

(SLIDE THIRTEEN OFF)

Following this, Design compiles a Training Program Worksheet for all tasks and holds it for TRADOC review (on request). The TPW (TRADOC Cir 351-3) lists all tasks by number and indicates where it will be taught and if not resident; what training products are available or are planned to support it. (Have sample TPW from TRADOC Cir for distribution). SLIDE 13A (if needed)

(SLIDE FOURTEEN)

(MILESTONES)

Design on Systems Mechanic began on 8 May 1979 and is currently scheduled to be completed in March 1980.

(SLIDE FOURTEEN OFF)

That concludes my presentation, gentlemen. Are there any questions?

Thank You!

THREAT AND TRAINING DEVELOPMENT AT THE ARMY SERVICE SCHOOLS

Small Group Discussion

CAC - MAJ Jim Bryant: Suite 600

CGSC
Air Defense
Armor
Field Artillery
Infantry
Missile & Munitions
Military Police

LOGCEN - Mr. Dutch Green: Holiday Room (Right Side)

Quartermaster
Transportation
Ordnance & Chemical
Aviation
Engineer
Signal
Sergeant Major Academy

ADMINCEN - LTC Joseph Dieduardo: Holiday Room (Left Side)

Chaplain
JAG
Academy of Health Science
DINFOS
IMA
Intelligence School (Ft Huachuca)
Intelligence School (Ft Devens)
Organizational Effectiveness
Music

Group Coordinator: MAJ Jim Bryant

1. (a) Is the threat manager in the schools considered to be a viable data source? (c) Has the threat manager played a significant, substantial, mediocre, minimal, non-existent roll in the analysis process at the schools?

Threat data comes from sources of other than threat manager: doctrine branch of DCD, person with additional duty as threat "expert" in DTD, scenarios, scores documents, etc. Threat manager may be viable data sources but not necessarily used by members of the group.

2. (b) Is the threat data, that is available in the service schools, considered to be adequate for the training Development Efforts? (d) Have the previous Training Development products (i.e., Soldiers Manuals, Commanders Manuals, TEC Lessons, SQT, ARTEP, Resident Instruction, etc.) adequately utilized the threat data that was available?

Data available more than adequate; group concerned that training development products that accurately portray conditions that can be imposed by threat forces are ignored by institutional and unit training/trainers.

- o ARTEP conditions ignored/minimized (NBC, EW).

- o "School" training does not take place under realistic or worst case conditions.

3. (e) Considering the analysis efforts presently underway in the schools, would the threat input to date by categorized as; outstanding, satisfactory, poor, or inadequate?

4. (f) If the TD efforts to date have not (for a variety of reasons) adequately utilized threat during the analysis efforts, has this had an impact on the quality of the products and training? What is it?

Problem is not that TD efforts have not adequately utilized threat during analysis effort; other factors interfer that do have an impact on the quality of products and training:

- o Reference answer #2.

- o Dynamic nature of generation of threat data causes training literature/products to become rapidly outdated.

o LCSMM process precludes TD/TA input; equipment and doctrine drive collective and individual tasks.

o TD end up revising out-of-date training because time crunch forces publication of outdated products (SM, SQT).

5. (g) If the integration of threat into analysis has been less than is required, what can the Chiefs of Analysis do to improve this situation?

Include formal statement of the problem in after action report to TRADOC Command Group:

o TD/TA do not have sufficient input to LCSMM Process.

o Good, realistic conditions in TD products are ignored/not used.

o Training cycle too short to allow acquisition of critical skills necessary to combat threat capability during institutional training.

o Milestones for TD products suboptimizes quality of those products when more time is needed for adequate development effort prior to publication.

ADDITIONAL POINTS -

1. Development of competent threat managers is probably a function of training and selection for particular assignments that allows experience in dealing with threat capabilities. Personnel turbulence in assignment of threat managers producers poorly equipped officers in these slots.

2. Threat managers may be overwhelmed by the scope of their responsibilities/requirements (training, updating, reviewing data).

3. Threat managers may provide valuable input to critical task selection boards (specific threat capabilities as applied to specific specialty being evaluated).

4. Acquisition of necessary skills for good analysts (properly weigh threat, mission, organization, equipment, doctrine, LCSMM, etc). probably takes more than 30-60 day period. Need formal, structural training.

Group Coordinator: LTC Dieduardo

Group Census/Summary:

- o Threat Mgr Fact sheet from each school w/primary threats to their specialty.
- o Threat Mgr must be trained in his job as well as skills that host schools is responsible for Training Development.
- o Threat Mgr not properly Resourced for scope of job.
- o Threat Mgr needs to give briefing prior to undertaking as a minimum.
- o Threat Mgr not being utilized as he/she should be except DEVANS.

Narrative Comments:

Most of the schools represented at the group were CSS. Traditionally the threat has not received much emphasis because these type units were not in any immediate danger. Today with the Soviet Doctrine of Rear Area Attack it is increasingly important for CS units to have training that centers around the threat.

Threat Managers need to be doers more than just advisors. They can also serve as a repository for questions up the Intel Chain of Command for information/data that may be needed by a particular school.

Threat Manager must keep abreast of R&D of enemy.

Group Coordinator: Dutch Greene

Group Census/Summary:

The threat managers have not been utilized in the schools because this is an additonal duty. Also, they have not been aggressive or responsive. They need to be trained and to educate the staff and faculty on their function. Most felt threat had been considered either consciously or inconsciously.

Narravtive Comments:

The group was very responsive during the discussion. There was concern that we really didn't have a good handle on threat. CBR asppears to be fairly clear cut. RAP &RAS, although considering during analysis and development, still needs to be clarified. It was suggested that CS and CSS schools need additional guidance from CAC.

The group considered several alternatives. Threat would seem to be more important to Combat Arms than CS or CSS. It would be difficult for many of the CS/CSS tasks to be performed during CBR attack. Only those very critical, high priority tasks would be performed.

It was determined that there are too many "ifs" in threat. It would be impossible to write training for every threat contingency. It would be more of a management (commander) problem than a doer problem. The commander will have to make a decision on what tasks would be performed because he will know the conditions (on the battlefield as well as in his area) at that time at that place.

It was also decided that perhaps threat should be considered on ARTEP (collective) tasks and crosswalk to individual tasks.

INTERVIEWING WORKSHOP

- 1 DAY
- BASIC SKILLS AND KNOWLEDGES
- KNOWLEDGE COMPONENT
- SKILL COMPONENT
- REINFORCEMENT ON-THE-JOB

JOB COMPETENCE ASSESSMENT

A New Method for Identifying, Measuring, and Training "Soft Skill" Competencies Which Predict Performance in Professional, Managerial, and Human Service Jobs

Lyle M. Spencer, Ph.D.

McBer and Company

A paper presented at the Department of the Army Training Development Institute, Fort Monroe, Virginia, 17 January 1980.

Lyle M. Spencer, Jr., Ph.D., is Vice President of McBer and Company, a management consulting and training firm. Copies of this article can be requested from McBer and Company, 137 Newbury Street, Boston, MA 02116, (617) 261-5570.

JOB COMPETENCY ASSESSMENT

This paper describes a new job analysis method, Job Competency Assessment (JCA), now being used by the Army to determine the training requirements for Junior Officers and Organizational Effectiveness Staff Officers. The JCA technique can enhance traditional job task/function studies by identifying the "soft skill" characteristics which predict superior performance in specific jobs.

The differences between data provided by the JCA approach and that provided by job task/function analyses are illustrated in Table 1. Job task/function studies essentially describe the specific elements of jobs--long lists of what a person does on the job. JCA identifies the characteristics or competencies of persons who do the job well.

An example of this distinction was provided at the last Training Development Institute meeting. A heated discussion took place concerning the training requirements specification for an MP. The presenter posited one job function to be addressed by training to be "escort prisoners." Various participants objected that this statement did not provide useful training guidance given the possible situational contingencies involved: escort at night or during the day? alone or with (how many) fellow guards? with or without weapons? constraints? an armored vehicle? A former MP observed that effective MPs used "more than one way to skin a cat"--and the real skill needed to perform this job effectively was "judgment." "Judgment," in this case, is an example of a "competency" that predicts successful performance of job functions in the MP position.

The educational technologists' immediate objection at this point is, "judgment" is much too vague to be used as a training objective. What is it? Can you measure it? How do you teach it? The JCA approach can be used to answer these questions, i.e., to identify, define in empirically measurable terms, and teach such higher level competencies as emotional self-control and conceptual ability. "Judgment," in our experience, usually turns out to be a combination of emotional self-control (not acting impulsively before considering the situation), perceptual acuity (getting the relevant data to define the problem situation), problem-solving/decision-making skills (evaluating alternative ways of responding, identifying the best alternative) and planning (specifying the action steps to implement the best alternative). Studies of police officers indicate two additional competencies are needed to transform "good judgment" into

TABLE 1

Comparison of Job Task Analysis and
Job Competence Assessment Data

Example: MP

Job Task/Function Analysis	Job Competence Assessment
• elements of job	• characteristics of person who does job well
• job functions: escort prisoner - day/night? - alone/with others? - with/without weapon? - constraints? - armored vehicle?	• competency: "judgment" 1. emotional self-control 2. perceptual acuity: get relevant data 3. problem solving/ decision making - identify alternatives - identify pros/cons of each alternative - select best alternative 4. planning: - identify action steps to implement alternative 5. proactivity: initiate action in stressful situations 6. skillful use of influence: - "command presence": acts in forceful way that gets compliance in others

effective action: proactivity (initiating action in stressful situations) and "skillful use of influence," e.g., "command presence" (the ability to act in a forceful way that gets compliance in others). It should be emphasized here that once identified in detail, these competencies can be measured with high reliability, using such operant techniques as assessment centers. More importantly, they can be taught via experiential adult education methods which ask students to practice behaviors in simulated settings.

The Job Competence Assessment Process

The Job Competence Assessment process includes some of the job task/function analysis techniques prescribed in the DOD's ISD model, and the job element analysis methods developed by civil service researchers (Primoff, 1977). The present process is based on the assumption that the best way to identify the knowledge, skills, or other abilities needed to perform competently in a job is (1) to identify the most effective performers in that job; (2) to study what these people actually do that distinguishes them from individuals whose performance is less satisfactory; and (3) to identify the specific skills, abilities, or characteristics that are responsible for this difference.

The current Job Competence Assessment process consists of eight steps (see Figure 1).

1. Define Performance Effectiveness Criteria

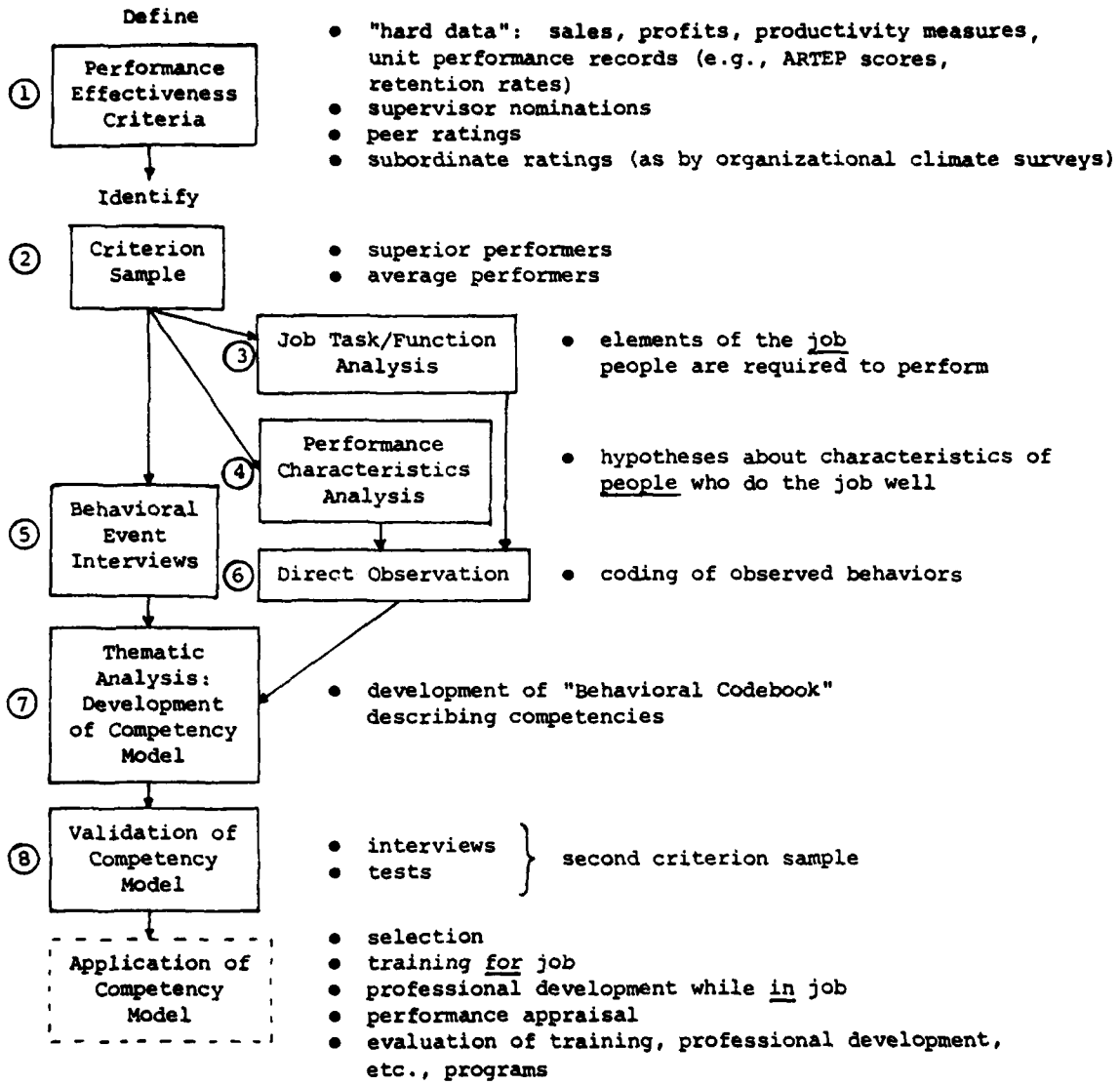
To identify superior job incumbents, it is first necessary to define measures of performance effectiveness in a given job. Ideal criteria are "hard" outcome measures, such as sales or profits data in industry, or, for military officers, unit performance outcomes, such as ARTEP scores or retention rates. In the absence of such criteria, supervisor nominations and peer ratings can be used. (Recent reviews by Lewin and Zwany, 1976, and Kane and Lawler, 1979, indicate that these ratings have high criterion validity.) Supervisory and peer ratings can in some cases be supplemented with client or subordinate ratings (e.g., those available from organizational climate surveys).

2. Identify Criterion Sample

Job incumbents who are consistently rated superior on a number of different performance criteria provide a standard for comparison analyses with a sample of average performers in the remaining steps of the process.

FIGURE 1

Schematic of the Job Competency Assessment Process



3. Job Task/Function Analysis

A job task or function analysis by traditional time-log, panel, or direct observation methods can be used to supplement the data collected in the Job Competence Assessment process, although for reasons which will be discussed below, this method is less useful in identifying critical "soft skills" competencies, because job task analyses identify the characteristics of the job as opposed to those of the people who do the job well.

4. Performance Characteristics Analysis

A panel of expert incumbents or observers of the job to be analyzed is convened to develop a list of hypothesized characteristics of people who do the job well (cf. the "Job Element Analysis" method developed by Primoff, 1977). Expert panels then rate each characteristic on four scales:

(1) the extent to which it distinguishes superior from average performers;

(2) how many barely acceptable performers possess it;

(3) how critical it is for selection or training; and

(4) how many job openings one could realistically expect to fill if one demanded the characteristic or skill as an entry criteria.

Statistical analysis of these ratings provides a numerical ranking of those characteristics which contribute most highly to superior performance and elimination of those which are unrealistic or appear to be possessed by few job incumbents.[1] This analysis provides a set of hypotheses about critical performer competencies which must be verified by behavioral event interview or direct observation data.

---

[1]An element will be rated highly (1) if it distinguishes the superior performer; (2) if very few barely acceptable performers have it; (3) if trouble is likely if it is not considered in selection or training; and (4) if it is realistic to fill at least some jobs by demanding it. Conversely, an element will receive a low rating (1) if it does not distinguish the superior performer; (2) if almost all barely acceptable performers possess it; (3) if one can safely ignore it in selection and training; and (4) if all jobs can be filled by demanding it. (See equations in Primoff, 1977.)

5. Behavioral Event Interview

Superior and average performers are interviewed using an in-depth "Behavioral Event Interview" (BEI) technique. This method, developed by Harvard University psychology Professor David C. McClelland and colleagues at McBer and Company (McClelland, 1976) is derived from Flanagan's (1954) classic Critical Incident Method. It asks interviewees to identify the most critical situations they have encountered on their jobs and describe these situations in considerable narrative detail: What led up to the situation? Who was involved? What did the interviewee think about, feel, and want to accomplish in dealing with the situation? What did he or she actually do? What was the outcome of the incident? McClelland's method goes beyond Flanagan's, in that it includes thematic apperception test probes which elicit data about the interviewee's personality and cognitive style (e.g., achievement motivation or convergent thinking ability). Asking respondents to focus on the most critical situations they have encountered elicits data on the most important skills and competencies required in the jobs being studied. Behavioral event interview protocols provide a wealth of data for the identification of "soft skill" competencies and a very specific description of job behaviors. (A significant "by-product" of these interviews is the generation of numerous situation and problem narratives which can be used to develop highly relevant training materials, e.g., case studies and simulations.)

6. Direct Observation

When possible, direct observation can be used to verify job task analysis, performance characteristics, hypotheses, and behavioral event interview data. As will be discussed below, empirical "assessment center" behavioral coding schemes (Bales, 1969; Bales, Cohen, & Williamson, 1979) provide perhaps the most valid method of measuring soft skill competencies.

7. Thematic Analysis and Development of a "Competency Model"

Data from the job task performance characteristic analysis and behavioral event interviews are subjected to a rigorous content analysis procedure to identify the behavioral patterns and personality characteristics which distinguish superior from average job incumbents. This is the most difficult and creative step in the JCA process. Two or more trained analysts examine the data and attempt to define competency elements which are differentially present or absent in the data on superior as compared with average performers. These elements are refined until they can be recognized with acceptable inter-rater reliability.

Empirical coding of interviews can be done with high inter-rater reliability, rs = .80 - .90, providing quantitative data that can be used in standard statistical tests of significance. A detailed and specific "behavioral code book" is prepared to facilitate empirical coding of interview data. These data are then used to test the criterion validity of the model. The behavioral code book, which describes the soft skill competencies that predict performance in the job, provides the "competency model" for the job.

8. Validation of the Competency Model

The competency model derived in Step 7 can be cross-validated by: (1) collecting behavioral event interview data on a second criterion sample, and seeing if a discriminant function analysis based on the first study predicts successful as opposed to average performers in the second sample; and/or (2) constructing objective tests to measure the competencies derived from the competency model and using test scores from a second criterion sample to test the model's criterion and predictive validity.

Application of the Competency Model

Once validated, the competency model can be used in a variety of ways: as the basis for the design of selection tests, assessment centers, performance appraisal systems and training and professional development programs, and as a source of criteria for the evaluation of training programs.

Comparison of Job Competence Assessment With Other Job Analysis Methods

It is useful to examine how the Job Competence Assessment method differs from and can address some of the limitations in traditional job analysis techniques. Three traditional approaches of defining selection and training criteria can be distinguished:

(1) Content Knowledge or Theory-Based Systems which specify, on the basis of theory. the knowledge skills which should be important for a person to have in order to do a job.

(2) Expert Panel: the characteristics which experts. tasked to determine by consensus, think are important for a person to have in order to do the job (represented in the Job Competence Assessment process by the performance characteristics analysis step).

(3) Job Task/Function Analysis: identification of the task functions that make up the job which are used to infer the knowledge and skills needed by the people who occupy the job.

Theory and panel methods have three distinct limitations. First, they lack supporting empirical data to show that the knowledge or skill characteristics they posit are in fact related to on-the-job performance. An example is the humanistic psychology courses that swept the military a few years ago. Civilian academic management theories and strongly-held beliefs on the part of a few persons led to the implementation of "leadership" courses, which taught and prescribed "humanistic" communications techniques in the absence of any data to show these techniques had in fact anything to do with effective leadership in military organizations.

Second, theory and panel methods tend to identify so-called "folklore" or "motherhood" items (such as "integrity," "perseverance," or "moral courage") which sound good and are seen as qualities that all job incumbents should have, but which may or may not be related to performance on the job. For example, in a State Department study, "writing skills" was agreed upon as necessary for superior performance of Foreign Service Officers. The Job Competence Assessment process found that despite the fact that "everyone knew" that writing skills were important, this ability did not in fact differentiate superior from average performers. What was important was the ability to write with sensitivity to political issues.

The third shortcoming of theory and panels is that the data they generate are not sufficiently behaviorally specific to provide practical selection or training criteria. For example, it is dificult to define "concern for people" in observable terms. How does one manifest concern? What does this mean? It turns out that what has usually been identified as "concern for people," affiliation motivation, or the desire to establish close friendly relations with others has consistently been found to be negatively related to effective performance in managerial roles (McClelland & Burnham, 1976). Effective concern for people, at least for industrial and military leaders, is not a function of affiliation needs, but rather the combination of a skill called "accurate empathy" (the ability to understand what others are saying) and "power or influence" skills (the ability to empower others to make them feel more capable of solving their own problems).

Job tasks/function analysis methods also have limited utility in identifying soft skills. The unit of analysis is the job, not the person who performs the job well. For example, a job task analysis statement for a mechanical engineer might

be "designs gears." This is accurate enough, but says nothing about what enables an engineer to design a gear well. Behavioral event interviews with superior engineers indicate that they have an underlying competency which might be labeled "three dimensional eidetic rotational imagery." For example, in behavioral event interviews, better engineers described an ability to mentally "image" and mutate physical objects in three dimensions, imaging different configurations until they arrive at an optimum design. Some even reported bringing other senses into play as well (e.g., "I sort of became the gear and tried to feel where I would hurt or break if under stress--sounds crazy, but it led me to 'seeing' the need to thicken a flange..."). This cognitive competency did not appear in average engineers' interview protocols. Similarly, in studies of Army Organizational Effectiveness Staff Officers (internal organizational development consultants), an important job function appeared to be "contracting with clients," i.e., negotiating with the service recipient to agree on just what services the consultant would provide. This functional statement does not specify, however, what consultant skills lead to effective contracting. All consultants contract, but only some do it well. A key soft skill competency in this case proved to be accurate empathy: more effective consultants were better able to "hear" their clients' underlying concerns.

In each case, job task analysis methods can identify what people do, but not the nuances of professional skill that enable some persons to perform a task more effectively than others. Lists of tasks, such as "writes memos" or "communicates orally to subordinates," are of little use without supplementary information about the competencies a superior job incumbent uses to make these communications effective, e.g., accurate empathy, political sensitivity, or such influence methods as assertive persuasion.

Second, job task analyses tend to be too detailed to be practical (e.g., lists of the 4,300 discrete behaviors required to drive a car, or the 3,001 functions performed by a teacher). Such analyses may be useful for describing specific technical tasks (for example, the steps in trouble-shooting a radio), but provide too much information in the wrong form to be helpful in teaching soft skills.

Finally, job task analyses are not selective. The well-known Praeto rule indicates that only a critical 20 percent of the functions a person performs on the job account for 80 percent of performance. The remaining 80 percent of all job functions are routine maintenance activities which do not distinguish successful from average performers. Job tasks/function analysis lists, particularly in the absence of a criterion sample, cannot distinguish the important functions from all the functions that a job incumbent performs.

The Job Competence Assessment method overcomes some of the limitations of theory, panel, and job task analysis techniques, and can supplement them in the identification of critical soft skills. First and most importantly, the JCA method goes beyond espoused theories and job descriptions to identify the personal characteristics and skills causally related to effective performance of specific job functions.

Second, the behavioral event interview makes it possible to document these soft skill competencies in sufficient behavioral detail to enable them to be used to assess and train others.

Third, the JCA method is selective. The critical incident interview approach necessarily focuses on the critical 20 percent of knowledge, skills, abilities, and other characteristics most important to performance, as opposed to the large number of ancillary behaviors associated with routine function.

Application of Job Competence Assessment Methods to Measuring and Training Soft Skills

It may be useful to briefly describe some of the methods developed from the Job Competence Assessment procedure for measuring and training soft skills.

Measuring Soft Skills

There are three commonly used "soft skill" assessment methods:

(1) Paper-and-pencil tests of knowledge content, cognitive ability (e.g., critical thinking or decision making), and personality variables (e.g., attention to detail and concern for influence). In general, operant tests (e.g., essay exams or projective instruments), which require test-takers to generate behavior, are more useful than respondent measures (e.g., multiple-choice exams) which ask test-takers to choose among items provided them. Reviews suggest the criterion validity of multiple-choice tests rarely exceeds $r = .33$, or 10 percent of the observable variance (Ghiselli, 1966; Mischel, 1968).

(2) Superior and/or peer ratings of job incumbents on the basis of general performance or aptitude for a job. Recent reviews indicate the criterion validity of such ratings is somewhat better than that of paper-and-pencil tests: $r = .40 - .45$, or 16-20 percent of the variance (Lewin & Zwany, 1976; Kane & Lawler, 1979).

(3) Observer ratings of performance on simulated job-specific tasks (e.g., ratings of military officer performance in such assessment center exercises as giving a presentation or managing a leaderless group). Reviews of the predictive validity of assessor scores is better still: r = .50 - .60, or 25-30 percent of the variance (MacKinnon, 1975).

Our research indicates that operant tests are much more effective in measuring soft skills than are respondent knowledge content tests. For example, in assessing influence skills, it is much better to measure individuals' ability to make an effective argument (an operant performance) rather than their ability to recognize an effective argument on a multiple-choice test. In general, simulated job performance tests are more predictive than operant paper-and-pencil tests.

Very frequently, the operant test items or situations and test scoring criteria for specific soft skill competencies can be derived from behavioral event interview data and the behavioral code book, which describes the competency model for a job. A better score on such tests is what superior performers actually do compared with what average performers do. Two examples from the Navy officer competency model may be helpful.

Figure 2 provides examples from an operant coding system for critical thinking, the cognitive ability to make inferences or to draw critical distinctions from large amounts of confusing, conflicting data, and to cite specific data to support one's inference. Critical thinking is important because it appears to be a generic competency of superior performers in almost every field. Better Navy officers, better counselors, better organic chemists, better medieval literature students, better lawyers, etc., all are higher in critical thinking ability.

The procedure for giving this test is to ask a subject to compare and contrast two conflicting statements or analyses of a situation or set of data. The content of the stimulus or data is not important. It can be drawn from any knowledge area or profession. For example, two conflicting tactical plans for an infantry officer, or two conflicting analyses of the same organic compound for an organic chemist.

The coding system for scoring subjects' operant responses is summarized in Figure 2. At low levels of critical thinking, subjects are unable to make a critical distinction or inference between the two sets of data and may show affective biases (e.g., "I liked Analysis 1 and disliked Analysis 2"). At higher levels of critical thinking, persons are better able to make critical distinctions or inferences, cite data to support their

FIGURE 2

Example from an Operant Coding System
for "Critical Thinking"
(from Winter & McClelland, 1978)

Procedure: a subject is asked to compare and contrast two conflicting analyses of or statements about a stimulus or set of data

Coding System for scoring subjects' response:

-1: no critical distinction nor inference; affective bias (e.g., "I liked analysis 1 and disliked analysis 2.")

0: no critical distinction nor inference; no affective bias

+1: critical distinction or inference, but no mention of supportive data (e.g., "Analysis 1 identifies the problem as X, where Analysis 2 identifies it as Y.")

+2: critical distinction with mention of supportive data

+3: critical distinction or inference with mention of data pro and con one's inference; probabilistic or weighted reconciliation of conflicting data

positions, and reconcile conflicting data pro and con their inferences (i.e., reason probabilistically or reconcile conflicting data by weighing opposing statements).

Subject's behavioral event interview protocols can be coded for this dimension, as can their memoranda, arguments in leaderless case discussions, essay responses to problem analysis tests, and other similar types of responses.

A second example of operant coding of a critical soft skill competency, accurate empathy or understanding, is shown in Figure 3. This is a generic competency evidenced by superior performers in a wide range of professional, managerial, and human service workers jobs.

For example, a somewhat surprising finding of our Job Competence Assessment studies of Navy Officers was that they spent a sizable amount of their time counseling subordinates, and that superior officers were significantly more proficient in counseling skills. The coding and scaling system provided in Figure 3 is taken from a competency-based training module designed to teach naval officers skills in advising and counseling.

Accurate empathy is an assessment of the extent to which the person can accurately hear the content, meaning, and feeling of what another person is saying. This variable is measured by coding the response a subject makes to a live, audio-tape, or written stimulus statement made by a counselee. The coding system for accurate empathy recognizes three elements: the respondent's accuracy as to (1) the content of what the counselee is talking about; (2) the counselee's meaning (i.e., why he or she is concerned about the content); and (3) the counselee's feeling, both the type of affect and the intensity of affect expressed about the content and meaning.

For example, at a low level of accurate empathy, a Navy officer may respond to a subordinate who has received a "Dear John" letter with a curt, "Tough luck. Get back to work."; or a completely content-irrelevant response such as, "Nice weather, isn't it?" At higher levels of accurate empathy, the officer understands and reflects the subordinates's feelings in the context of their content and meaning (e.g., "You're really shook up because of that letter you got from your wife (husband)."). A response of this type makes the subordinate feel understood and facilitates his or her coping with stressful feelings.

A large body of literature indicates that accurate empathy is a critical competency for all types of professionals, e.g., doctors or lawyers, persons in helping positions (Carkhuff & Berenson, 1976). More recently, it has also been found to be

FIGURE 3

Example:
An Operant Coding System for "Accurate Empathy"
(from Carkhuff, 1969)

Procedure: a subject is asked to make an appropriate counseling response to a taped or live statement made by a "counselee"

Understanding (accurate empathy): measures the extent to which the counselor accurately hears the content, meaning, and feeling (type of feeling and intensity of feeling) of what the counselee is saying.

- Content: what the person is talking about--his wife, her job, an alcohol problem, etc.
- Meaning: why the person is talking about it--"You are talking about, because..." (e.g., wife, because she's leaving him; job, because she's not doing it as well as she could, etc.)
- Feeling: how the person feels--the feeling word the person uses.

  --type of feeling: sad, angry, frustrated

  --intensity of feeling: for example, for anger, where on a scale from "mildly irked" to "blind rage"

For example, to a person who has received a "Dear John" letter, the counselor says:

UNDERSTANDING

(1)	(2)	(3)	(4)
Content, meaning, feeling absent or wrong	Content accurate; meaning, feeling absent or wrong	Content and meaning accurate; feeling inaccurate or wrong	Content, meaning, feeling all accurate
"Nice weather, isn't it?" "So what?--get back to work."	"Sounds like you got marriage problems."	"Your performance was off today because you got some bad news."	"You were too upset to work because you got that letter from your wife."

a critical skill for leaders and managers, underlying what is called "concern for people." (It should be emphasized that accurate empathy is not sympathy, feeling what the other person feels. but rather understanding, knowing what the other person feels, which enables a manager to make the appropriate response to help a subordinate solve a personal problem.)

The important thing about such operant coding systems for any soft skill competency is that they are both highly inter-rater reliable (i.e., can be accurately recognized) and demonstrate predictive validity (i.e., can be shown to be causally related to superior job performance). Perhaps even more importantly, once soft skills can be defined on this level of behavioral detail, they can be readily taught to others; which leads us to training in soft skills.

Training in Soft Skills

Until recently, many educators have been skeptical about the extent to which it is possible to teach or train people in soft skill competencies such as achievement motivation, critical thinking, accurate empathy, or skillful use of influence. Over the past 5 years, McClelland (McClelland & Winter, 1971) has conclusively shown that achievement motivation, an important cognitive affective competency which predicts success in jobs requiring entrepreneurial initiative, can be taught. The method McClelland prescribes for training to such a competency is relatively simple. It involves (1) teaching people the behavioral coding system for the competency in great detail; (2) giving them practice in assessing their own and others' behaviors in achievement motivation terms; and (3) setting specific goals and defining action steps for using the competency, first in a supportive training environment, and then increasingly in real life. Persons trained in achievement motivation show significant increases in personal income, career advancement and business sales and profits, and create more capital and jobs. (Miron & McClelland, 1979).

In recent work in developing competency-based leadership and management courses for the United States Navy, McBer has developed a fairly standard five-step competency training procedure (Spencer, 1978) which incorporates and expands upon McClelland's principles. Each of these steps is used to teach the two competencies discussed above under measurement of soft skills, critical thinking, and accurate empathy.

Recognition

Trainees are presented with a difficult case or a simulation problem, designed to produce a "shock of recognition" in which they realize that they actually encounter problems calling for the use of the competency in question in their real jobs, and that they often have trouble dealing with these problems. For example, trainees may be given a complex analytical task which requires critical thinking or be asked to counsel a subordinate in distress in a role play. The cases and simulations used are drawn from actual critical incidents collected during the behavioral event interview phase of the Job Competence Assessment process. The recognition step is designed to introduce the competency in an experiential way and to create specific motivation for learning.

Explanation

Trainees receive practical conceptual input on the competency via readings, lectures, or demonstrations. For example, in the module on critical thinking, trainees are given a lecture on the importance of critical thinking in their field, are taught the critical thinking coding system, and score actual case problem analyses for critical thinking. In a counseling module, trainees are similarly taught the accurate empathy scoring system and then code video-taped demonstrations illustrating lower and higher stages of empathy behavior. Recent research indicates that trainees can quickly acquire a very high degree of reliability ($r = .95+$) when exposed to behaviorally specific examples of discrete points on a scale (Lawton & Borman, 1978).

Self-Assessment

Trainees receive operant test feedback on their performance on the competency factors which predict superior performance. This feedback in effect tells them, "This is how the superstars in your billet perform on these dimensions, and this is how you perform," which provides trainees with very specific motivation, direction, and goals for change. Knowledge of the behavioral coding scheme imparted in Step 2 enables trainees to grasp quickly and see exactly what they are doing effectively or ineffectively in terms of a given soft skill competency.

Skill Practice

Trainees practice using the competency skills they have been taught. For example, the best way of practicing critical thinking is repeated exposure to analytic case discussions of

the type pioneered by Harvard's Law and Business Schools. Students who are repeatedly asked to analyze complex case problems, to respond to the insistent questions, "What's the problem? Who has it? What are your data?", rapidly gain in the ability to draw critical distinctions and inferences from complex information. (Incidentally, our studies indicate that the case method effectively teaches two competencies; critical thinking and assertive persuasion skills, the ability to "think on one's feet" and articulately defend one's analysis of a situation, or proposed solution to a problem.)

In practicing accurate empathy, students conduct repeated real or simulated counseling sessions which are recorded on video- or audio- tape, then play back and score their responses on the accurate empathy scale, continuing this process until they reach a mean level of 3 on a 4-point scale, the level which predicts successful performance (Carkhuff & Berenson, 1976).

Job Application

In the final step, trainees identify situations in which they will use the competency in their jobs and set goals, anticipate obstacles, and develop an action plan for doing so. This step reinforces the relevance of the training, translates it back into a real job performance context, and increases the likelihood that any soft skill competency learned will be in fact used back on the job.

Three Final Points

1. The Job Competency Assessment (JCA) method is compatible with the DOD ISD model. Phase I: Analysis Process provides for all methods of job analysis--indeed it is likely the most complete and useful training requirements specifications will result from use of job task, job element, and job competency assessment approaches together. The JCA approach can extend the usual TSD analysis procedure through use of a criterion example of job incumbents and identification of the complex cognitive affective competencies causally related to superior job performance.

2. The JCA method is particularly useful in analyzing the training requirements for higher level leadership, management, professional, and human service jobs. The numerous situational contingencies encountered in these jobs, and nuances in skills which predict effective performance make exhaustive job function analyses for jobs of this type particularly difficult.

3. Critical competency based-selection and training procedures are more likely to result in superior perfomance on the job than skill-based selection and training alone. Where content-knowledge tests demonstrate little power to predict performance, competency models regularly achieve criterion validities of r = .50 - .70, 25-50 percent of the variance (Boyatzis, 1979). This is because skills assessment and training indicate only what people can do, where a person's competencies predict what he or she will do. For example, a military communications technician may know the steps required to troubleshoot a radio, but for motivational reasons may not use these skills. Training in achievement motivation, concern with an internal standard of excellence (e.g., as illustrated in such statements as, "I stayed after work trying to fix the thing, 'cause I just couldn't leave knowing it wasn't working right.") may be equally important. In fact Miron and McClelland (1979) found that for a job in which achievement motivation was the critical competency, only motivation training made a significant difference in job performance. If individuals lacked motivation, providing skill training did not improve their performance. Motivated persons quickly identified the skills they needed to be successful, and aggressively set about acquiring these skills on their own.

   In one military training program, we found that days were spent teaching officers how to fill out specific administrative forms. Students correctly observed that "any intelligent, heads-up officer learns what forms he or she has to fill out--and how--the first couple of days on the job. It's a waste of time to spend training days on such Mickey Mouse stuff." This time would be better spent teaching officers the underlying competencies (planning and organizing strategies, attention to detail) which predict handling paperwork efficiently.

Summary

In summary, the Job Competence Assessment process of identifying, measuring, and training soft skills provides a number of benefits. It permits description, in very specific behavioral terms, of not only the elements of a job but the characteristics and skills of the persons who do the job well. These behavioral indices can be used in a variety of personnel functions: development of non-discriminatory selection tests and interview processes and competency-based performance appraisal, "efficiency" or evaluation reports, and the design and evaluation of training programs. Competency-based selection, assessment, and training procedures provide empirical, reliable, predictively valid, and face valid methods of defining the soft skills associated with competent job performance: what superior incumbents actually do in their real jobs.

INTERVIEW 1: NCO (E7)
AUTOMOTIVE MAINTENANCE INSPECTOR

In the job I'm in now, as Battalion Inspection Motor Sergeant, I make out equipment readiness reports. I have had more problems with the officers than with the NCOs or the young troopers. They come to me to approve equipment. If it doesn't meet inspection standards, I send it back. That's my job. Then all hell breaks loose between me and the Motor Pool and that's when the officers get involved. It's very ticklish situations. In the old Army if I said they got to do something to meet regulations they would just have to do it. No way about it. I can't think of any situation that I push someone or I wasn't covered by regulations where when I said "You have to do it," they had to do it. The new Army changes came in in 1963. I don't like it. As Technical Inspector I have to put up with an average of six battalions in every unit that I have been with. Out of all these there are very few that actually pass the IG. They are either in the field so much they don't take care of their gear or they just don't care. They don't finish what they start to do. Even when we send a piece of equipment back to them, they will fix it up but they don't continue maintenance from there on.

The unit I am with now you wouldn't believe. They could bring in a front bumper and call it a truck and we'd have to take it and fix it up. If the truck breaks down it's our responsibility. The IG inspection, you either pass or flunk. They're either pushing too much or not enough. I feel that they don't check the situations enough.

For example, just before the last IG we got a truck with bolts loose all over, the tailgate ready to fall off, one or two flat tires, windshield all cracked. They were disorganized and they didn't have the needed parts and they hadn't made the needed changes. I explained and showed them the changes they needed to make, what to do and what not to do. I was explaining these procedures to the Motor Sergeants up until five o'clock when chow time came. I went to chow and then went up to see the Captain. He told me those two Sergeants in the Motor Pool called him and said, "We don't want him (me)." He (the CO) told me to go home and get a good night's sleep.

I didn't know how to feel. They didn't want me but this CO, the way he tells you things, he makes you feel confident that you've done your job. He leaves you feeling confident. I thought about it that night and I decided not to go back. I knew I could have helped the unit but thought that if I did go

back, the CO would think that I was trying to take responsibility away from them. The next day they had the IG inspection and flunked three areas that I had told them about. I haven't seen that CO since. I don't know what happened.

INTERVIEW 2: NCO (E7)
ARTILLERY

When I took over in Germany, my gun crew was in last place. In one field trip, one month, I moved them all the way to the top. Charlie Battery was the best battery and my section was the best section. Yet when I took over, it was known as the drug battery, because they had lots of drug problems. I dealt with this by telling them we were going to be number 1, and getting them on the guns.

Guns. You've got to have guns to train. Others, they give their guys classroom training, but it's just not enough. You've got to get your hands on the equipment to fire. I had two Howitzers and I was supposed to have four. I went and borrowed six guns so there would be one for every two people. How I get equipment and parts? Well, from other artillery units. You always know someone, and you always can go borrow from them. I borrow it and bring it back. And I do the same, I lend them materials when they need it. When a unit needs stuff, I lend it, and then they lend it back to me. Army requisition works real slow. You can't let that get in the way. If I need a part to make my gun work, it's the NCO's job to go get that part.

My biggest problem was that most people had been trained on other weapons. The first thing I did was (1) find out what kind of weapon a new person has been trained on, and (2) figure out what type of training he needs. First I explain to them the duties of the cannoneer, what the specific job is. Then I explain what each man in the crew does and what vehicles are involved. Then we go over the general subjects: weapons orientation, 50-calibre machine gun, other crew-served weapons. Then I take them out on the gun itself, and go over sights, ammunition, and safety.

I picked the right person to do each job. I worked with them until they got it right, whether it took ten minutes or all day. Specifically, I set each man down and told him exactly the job he's going to do. "You do this, then this, then this." How to build the gun up, how to tear it back down again when we move it. Then I got them actually working on the gun on two or three field trips, going through each step slowly. I don't care if they go slow at first: accuracy is what I care about. Say I have 125 rounds and 35 hours to fire them. I don't care if it takes all that time. That way I know who knows what and who doesn't, and what training each person needs to build him up. Also, that gets the "jealousy" working. Each team has a chance to see what the other teams are doing, and which are best, and

it gives them something to strive for. The fourth time out, we started working on speed. Each firing gave them a chance to see what they could do. Each time I'd try and cut the time down, build up speed as the men caught on. Then, I varied the routine: fire at night and fire under blackout conditions. Finally I had the division artillery team come down and inspect us, see how we were doing.

About the dope? I did lots of counseling. A lot of the kids were away from home for the first time, and they were just doing what they saw other people do. I told them straight: I don't want to walk into the barracks and smell dope. You clean up your act and you'll get time off. And they did. Man, I knew it was working when I started getting guys from the other sections saying, "Why is that group working so smooth? How come you got so much time off?" My guys got the most time off. I told the others: "And you go look at my equipment. It's standing tall; it's the best." My guys saw us reaching the goal, saw that we could do it. That gives a man a goal, a reason for working. That gave them some pride. Soon everyone was competing to do the best, and that builds up the whole battalion. We were first in the ARTEP inspection and on our battalion ARTEP we were judged most effective.

	JOB TASKS	COMPETENCIES Characteristics of NCOs which predict doing the job well (or poorly)
NCO 1		
NCO 2		

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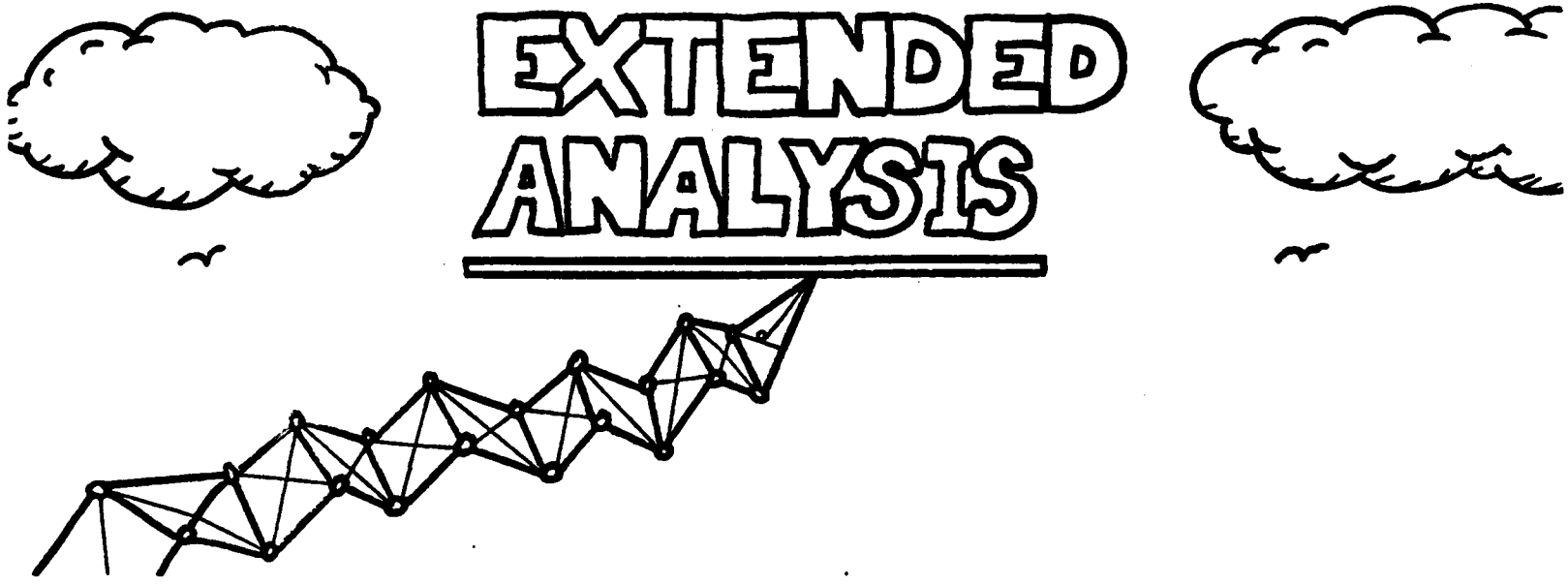
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20-1



PROCEDURAL TASK. A PROCEDURAL TASK IS A TASK

(1) FOR WHICH THERE IS A SET PROCEDURE FOR DOING THE TASK,

(2) FOR WHICH, IF ONE FOLLOWS THAT PROCEDURE, THE DESIRED RESULT WILL OCCUR EVERY TIME, AND

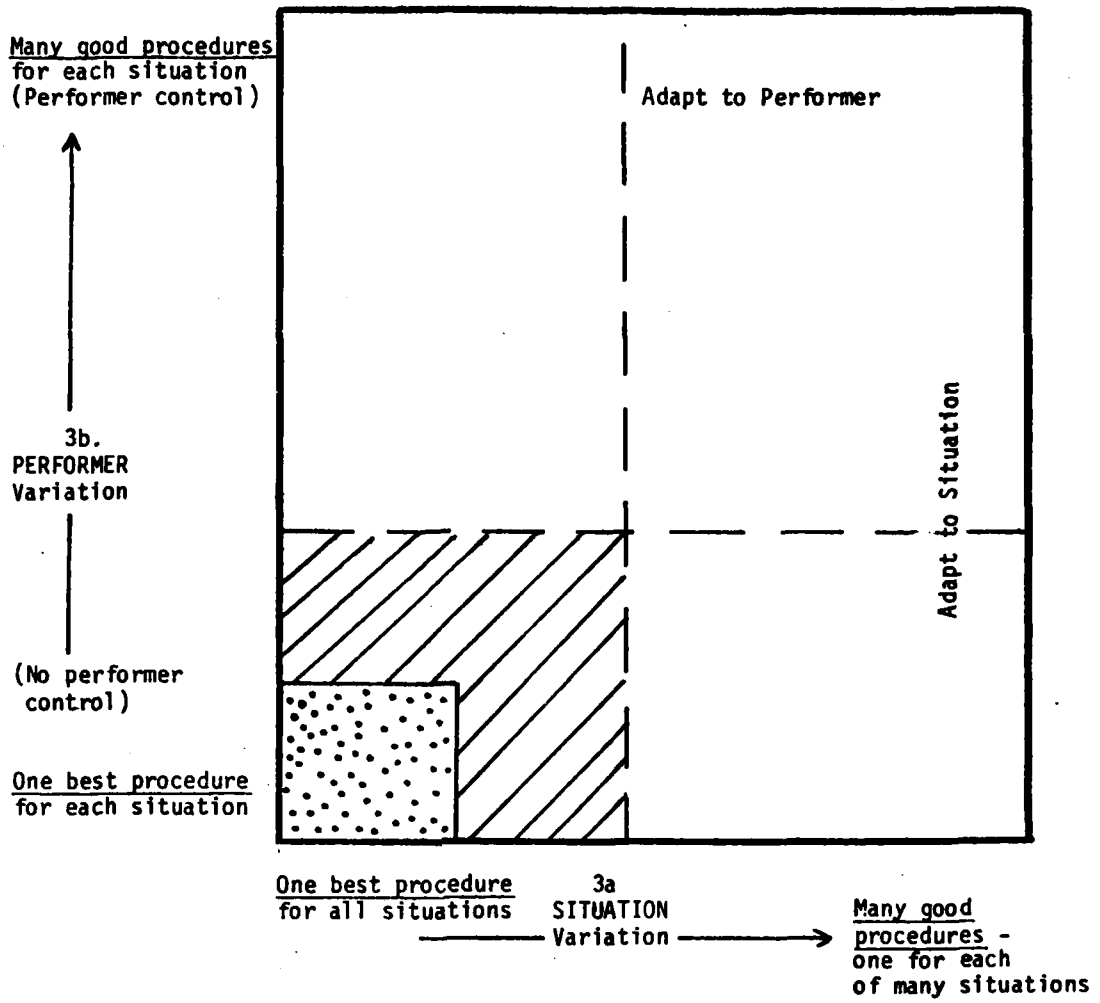
(3) FOR WHICH, IF ONE DOES NOT FOLLOW THE PROCEDURE, THE DESIRED RESULT WILL NOT USUALLY OCCUR.

Transfer task. A TRANSFER TASK IS A TASK

(1) FOR WHICH THERE ARE AT LEAST TWO APPROACHES FOR DOING THE TASK, AND

(2A) FOR WHICH FOLLOWING A SET PROCEDURE THAT YIELDS THE DESIRED RESULTS IN SOME SITUATIONS MAY NOT YIELD THE DESIRED RESULTS IN OTHER SITUATIONS, OR

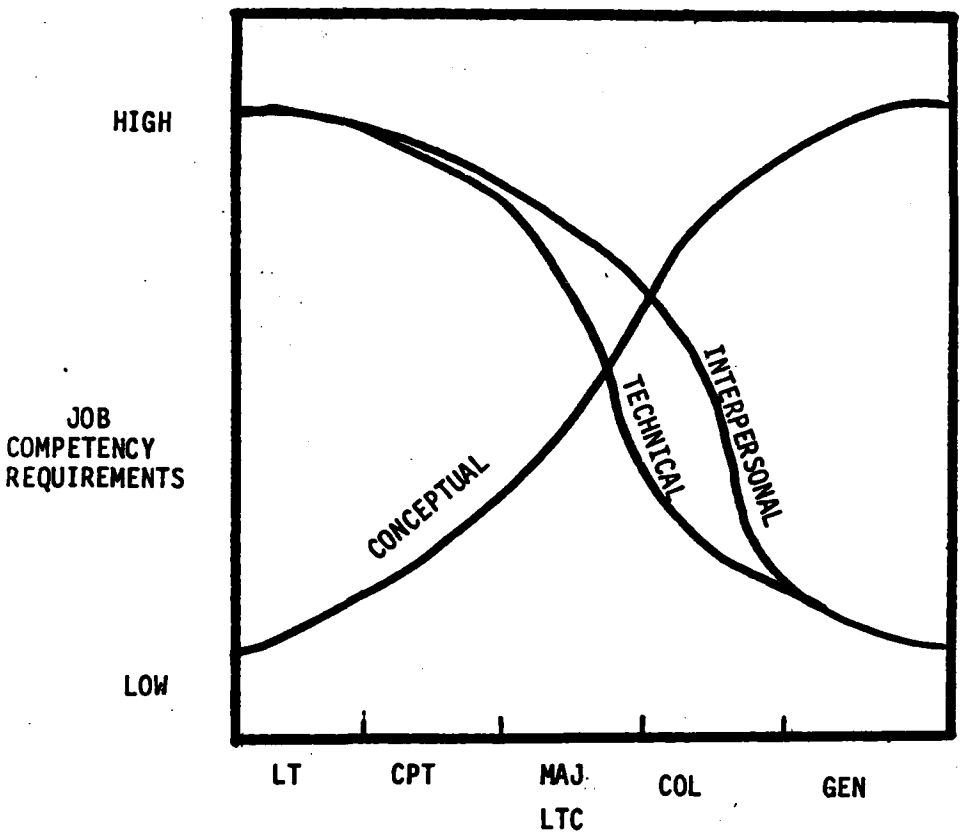
(2B) FOR WHICH TWO OR MORE SET PROCEDURES MAY YIELD THE DESIRED RESULTS FOR A SINGLE SITUATION.



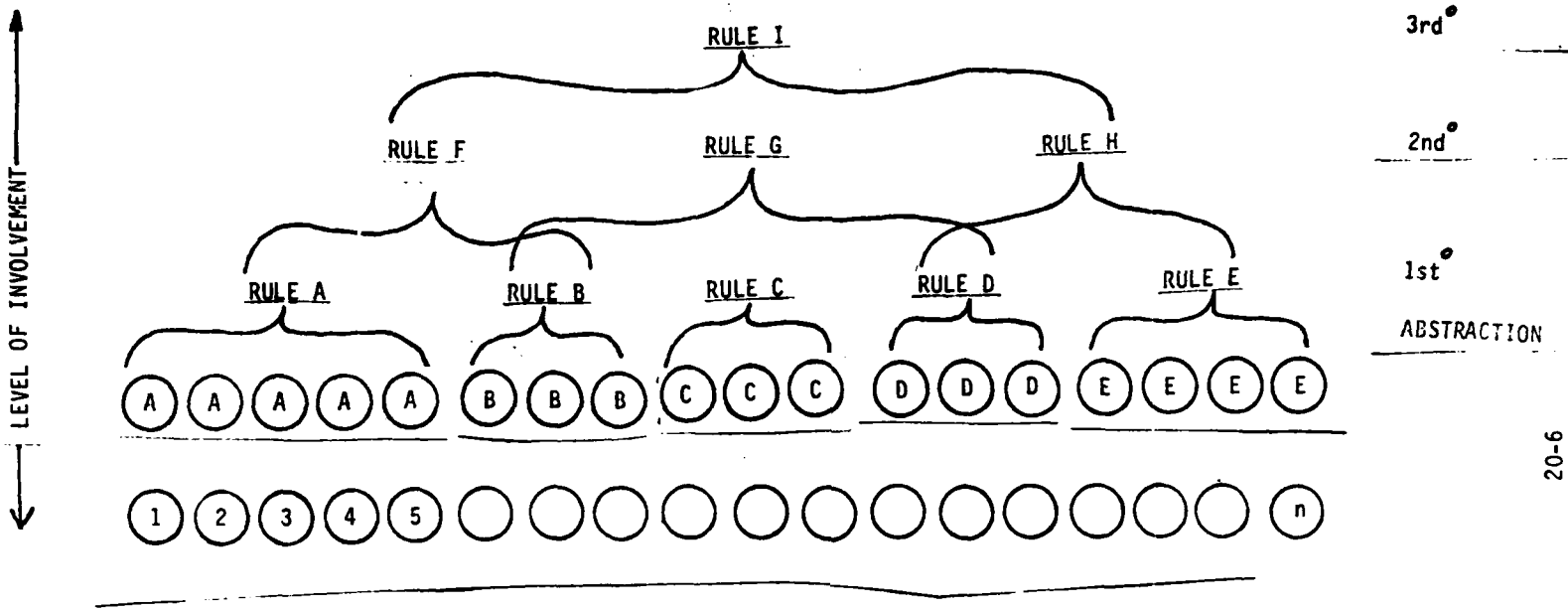
Unitary procedural task

Multiple procedural task

Transfer task .


HIGH
JOB
COMPETENCY
REQUIREMENTS
LOW
CONCEPTUAL
TECHNICAL
INTERPERSONAL
LT
CPT
MAJ
LTC
COL
GEN

STRUCTURAL ANALYSIS

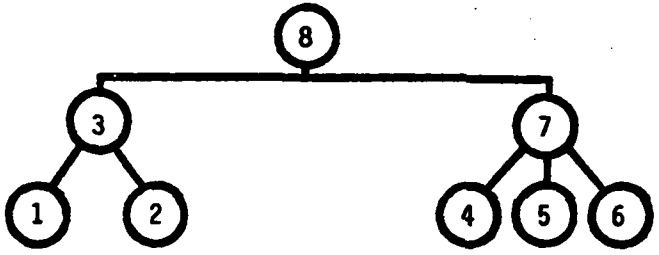


INSTRUCTIONAL SEQUENCING

TRADITIONAL ANALYSIS



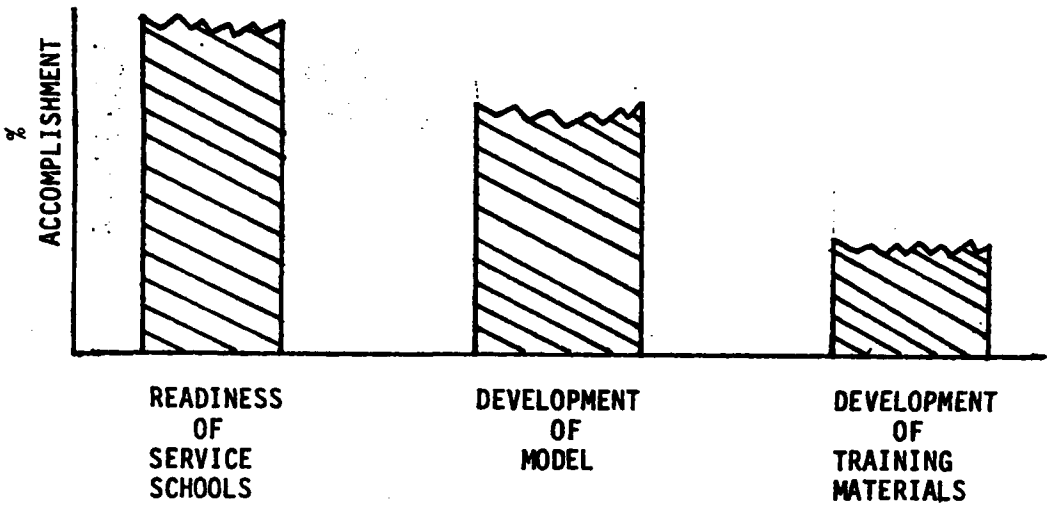
or



STRUCTURAL ANALYSIS

RULE "A" (1) (4) RULE "B" (7) RULE "F" (6) ..... RULE "I"

EXTENDED ANALYSIS REQUIREMENTS



EXTENDED ANALYSIS MILESTONES

18 APR 79.....OFFICER JOB & TASK ANALYSIS 1PR

MAY-JUN 79.....STRATEGY FORMULATION

24-26 JUL 79..... SOFT SKILL ANALYSIS SYMPOSIUM

14-16 AUG 79.....SOFT SKILL ANALYSIS SEMINAR

AUG-SEP 79.....PRELIMINARY DRAFT (SSP)

OCT 79.....ORAD REVIEW & REWRITE

12-30 NOV..... LIMITED DISTRIBUTION REVIEW

7-20 DEC..... FIRST REVISION (SSP)

JAN..... ORAD REVIEW & REWRITE

15-17 JAN..... CHIEFS OF ANALYSIS PRESENTATION

1-29 FEB..... SERVICE SCHOOL REVIEW (FIRST DRAFT)

1-21 MAR..... ORAD REWRITE (FINAL DRAFT)

1 APR..... SERVICE SCHOOL DISTRIBUTION (TEST CHAPTER)

SKILL - THOSE OVERT AND COVERT BEHAVIORS FUNDAMENTAL TO THE PERFORMANCE OF TASKS AND SUB-TASKS. THE ABILITY TO PERFORM A WORK ACTIVITY AT A GIVEN LEVEL OF PERFORMANCE.

- MATHEMATICS SKILLS
- COMMUNICATIONS SKILLS
- REASONING SKILLS
- INTERPERSONAL SKILLS
- MANIPULATIVE SKILLS

BASIC SKILLS - THOSE REQUIRED FOR ACTIVITIES PERFORMED BY MOST PEOPLE IN THE TARGET POPULATION.

SPECIFIC SKILLS - THOSE REQUIRED FOR ACTIVITIES PERFORMED BY SELECT GROUPS OR SUB-GROUPS OF A TARGET POPULATION.

KNOWLEDGE - FACTUAL INFORMATION

- FACTS
- GENERAL TRUTHS
- PRINCIPLES
- CONCEPTS

KNOWLEDGE HAS MEANING ONLY WHEN IT SUPPORTS A SKILL.

KNOWLEDGE CLASSIFICATIONS

PROCESS RELATED - KNOWING WHAT TO DO, WHEN TO DO IT, HOW TO DO IT, OR THE SEQUENCE OF EVENTS.

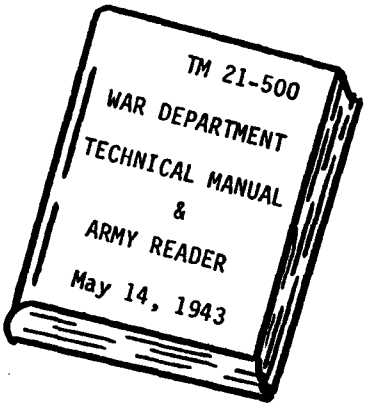
ENVIRONMENT RELATED - KNOWLEDGE OF TERMINOLOGY, EQUIPMENT, TOOLS, FACILITIES, LOCATIONS.

HOW SKILL IS ACQUIRED	TYPE SKILL
THRU TYPICAL EDUCATION	BASIC
THRU THE NORMAL PROCESS OF MATURATION	BASIC
THRU THE NORMAL SOCIALIZATION PROCESS	BASIC
THRU SPECIAL TRAINING AND/OR EDUCATION	SPECIAL
THRU EXPERIENCES NOT AVAILABLE TO THE AVERAGE PERSON	SPECIAL

THE ARMY

AND

BASIC SKILLS EDUCATION

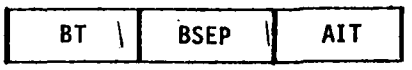
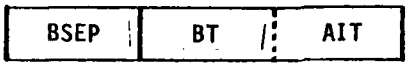




A Soldier
Private Pete

- Private Pete Developmental Reading and Math Program to School the uneducated.
- HUMRRO Functional Literacy (FLIT) Program.
- BSEP 1978.
  - Mixed Guidance - Functional Mandate/Grade-Level Goals.
  - Proposed continuum throughout career.
  - No provision for test and material development.

BSEP I DELIVERY MODELS

TYPE	INSTALLATIONS
I. Front Loaded on AIT: 	Ft Eustis, Aberdeen, Ft Belvoir, Ft Rucker, Ft Sill, Ft L. Wood, Redstone Ft Gordon, Ft Jackson
II. Front Loaded on BT/OSUT 	Ft Benning, Ft Gordon(OSUT) Ft McClellan, Ft Knox, Most ESL Programs
III. Concurrent w/AIT (Group or Self-Paced): 	Ft Ben Harrison
IV. Integrated w/AIT (Self-Paced): 	Ft Dix, Ft Bliss

- Uses variety of Delivery Modes

Mode I Recommended in AR 621-45/6-week pullout prior to AIT

Mode II Traditional Model - 6-week pullout prior to BT/OSUT.
Best for ESL.

Mode III Concurrent - ½ day pullout or evening study hall.
More efficient/effective/training-related.
Requires coordination between trainers & BSEP instructors.

Mode IV Fully integrated - Totally Job/MOS-Related
Efficient - Immediate help when needed
Helps more people in less time.

BASIC SKILLS EDUCATION

Examples of Functional Programs

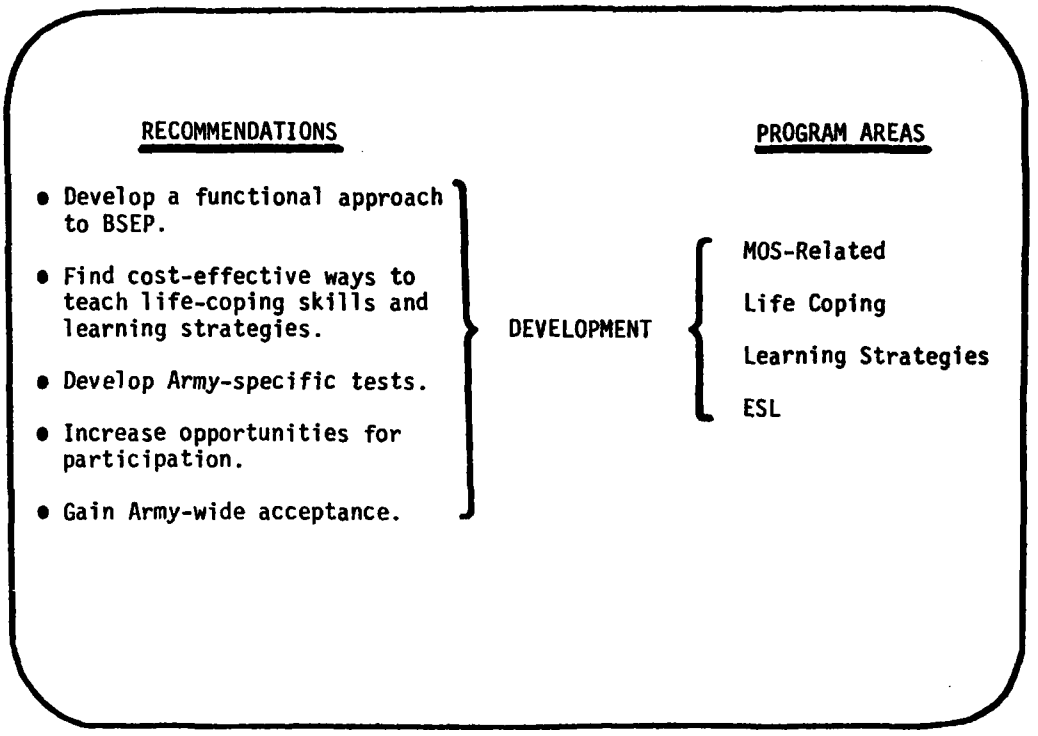
- INITIAL ENTRY TRAINING
  - Puerto Rico
  - Dix
  - Jackson
  - Bliss

- Puerto Rico NG
  - Pre-enlistment prep program for IET
  - Attrition in IET reduced from 29% to 6%

- Ft Jackson/Ft Dix ESL
  - Prep for IET-Jargon and culture
  - Emphasis on range safety & UCMJ
  - Reduced training problems & IET attrition

- Ft Dix Literacy
  - Fully integrated model
  - Highly skilled tutors using modified FLIT material
  - High trainer involvement
  - Reduced pipeline, improved quality
  - Increased target audience to 40%

- Ft Bliss
  - Incorporated functional emphasis on technical documentation literacy skills
  - Reduced attrition in ten air defense mechanics MOS from 22% to 2%.



RECOMMENDATIONS TO PLAN

- ASA (M&RA) review of BSEP found:

. . The general approach to literacy development is inadequate to meet Army requirements.

. . The Army has an obligation to use state-of-the-art on adult functional language and math training as a basis for designing Army-specific programs.

. . Existing program reaches only a small portion of those who require literacy help.

. . That the Army needs to recognize learning strategies and life-coping skills as well as reading, writing, computing and speaking skills as an essential and integral part of soldier training.

- Findings reflected in recommendations shown on the left hand portion of this slide.

(continued)

RECOMMENDATIONS TO PLAN (Cont)

- To satisfy these recommendations the planning group at TRADOC identified the four program areas shown on the right for development.

- The proposed BSEP development effort represents a radical departure from traditional literacy programs.

MOS BASELINE SKILLS

- Those prerequisite competencies without which a soldier cannot absorb training or perform adequately on the job.

MOS BASELINE SKILLS - Defined as shown.

Examples of Baseline Skills:

Use of Index and Table of Contents

Reading charts and graphs

Understanding directions in TM

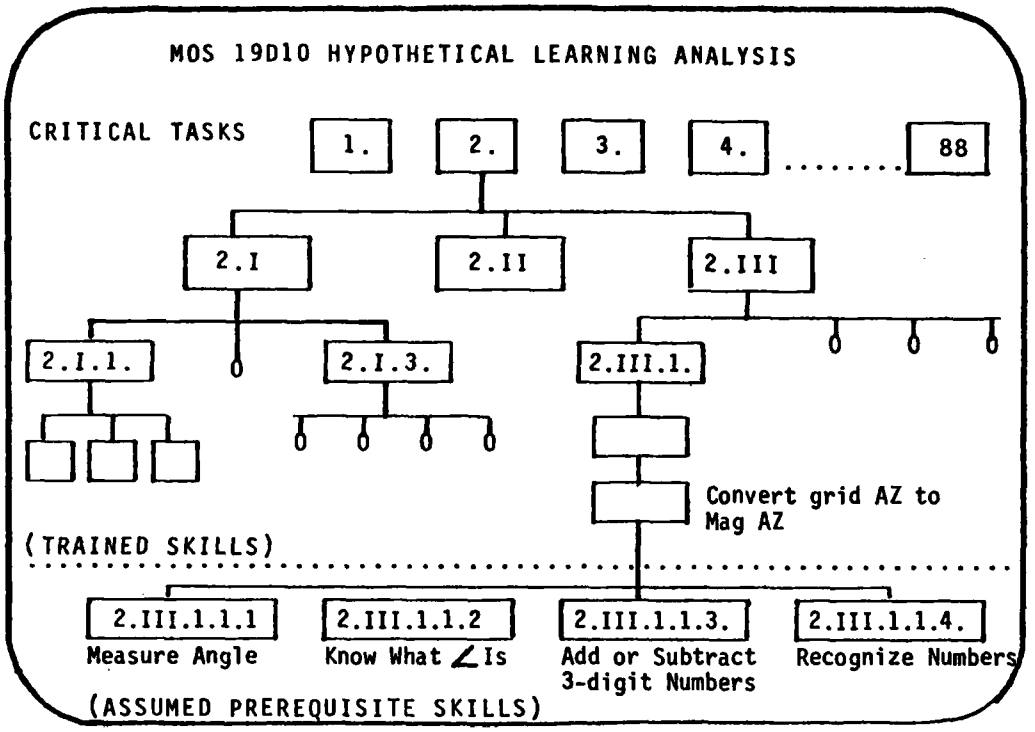
Filling out forms

Following verbal directions

Measuring

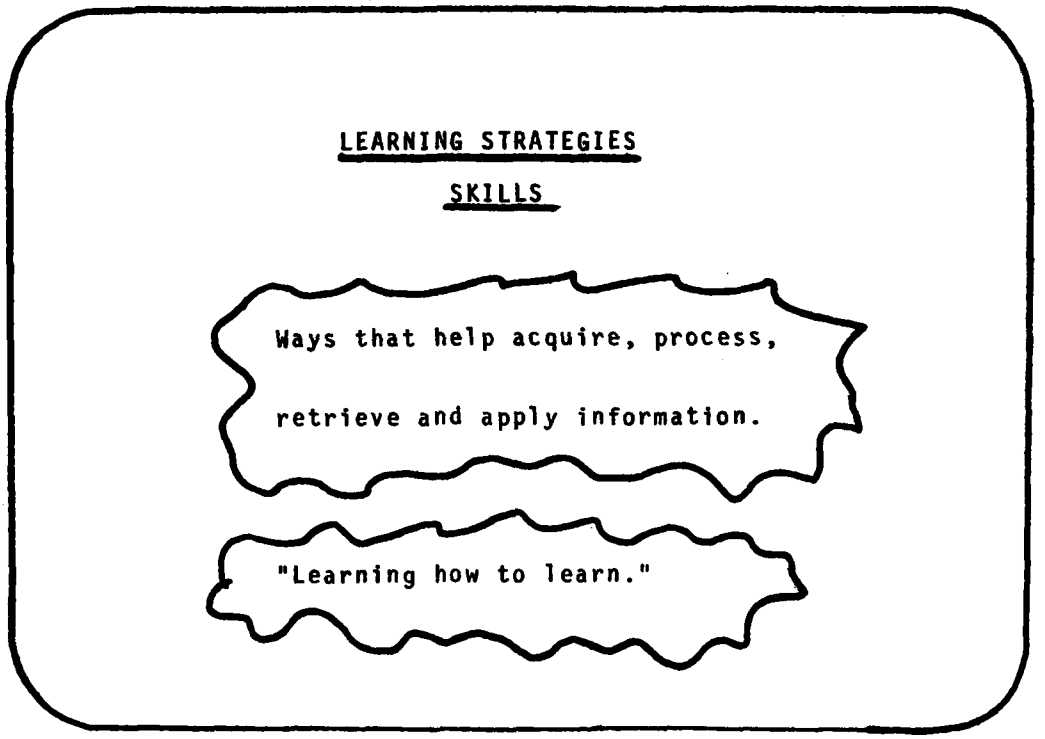
Estimating

Computing from MOS problems



19D10 - Learning Analysis

- Shows how baseline skills determined.
- Critical tasks from Soldiers' Manual.
- Learning analysis identifies enabling skills - Key to functional BSEP.
- BSEP objectives - Assumed prerequisite skills below baseline.
- Functional BSEP trains only skill deficiencies.
- Analysis of 137 MOS comprising 95% of force.
- Cluster like requirements for curriculum development.



LEARNING STRATEGIES - Defined as shown.

- Emphasis on creating independent learners.
- Designed for use to facilitate learning at various stages in soldier's career.

MILITARY LIFE-COPING SKILLS

Those competencies which enable

the soldier to adapt . . .

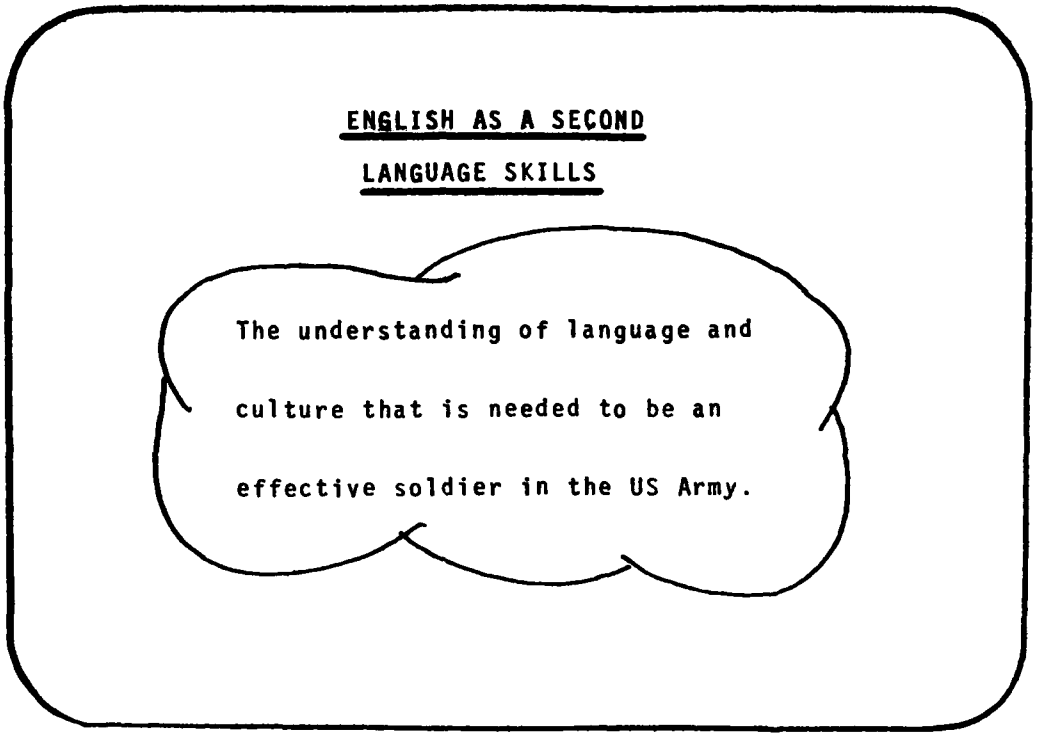
adjust . . . or otherwise

successfully deal with demands

associated with Army life.

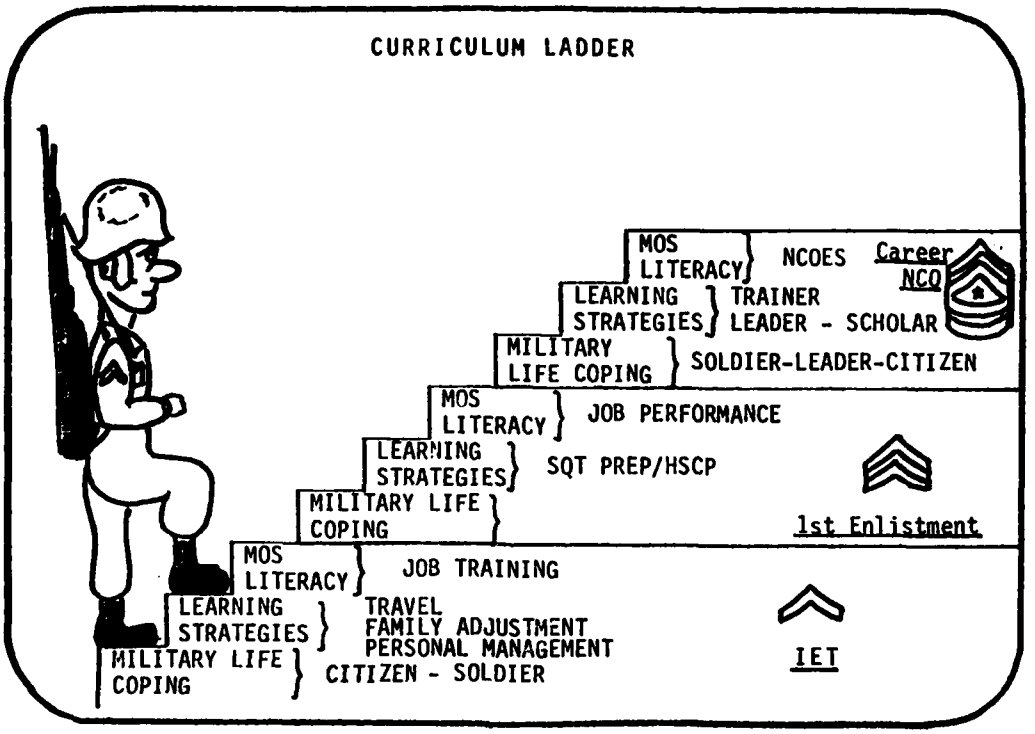
MILITARY LIFE-COPING SKILLS - Defined as shown.

- Based on U. S. Office of Educations Adult Performance Level Model.
- Grouped into seven functional areas for development:
  - Knowledge of military system
  - Coping with personal problems
  - Coping with family problems
  - Health education
  - Financial affairs
  - Dealing with others
  - Civic responsibilities
- Each area consists of series of instructional modules to be taught as required.
- Incorporates existing materials in Army system.



English as a Second Language (ESL) - Defined as shown.

- Recognizes understanding of culture as key ingredient.
- Will consist of three programs
  - Pre-Enlistment
  - Pre-Basic
  - Sustaining



CURRICULUM LADDER

- Shows relationship between BSEP and professional development.
- Illustrates three distinct career phases and their BSEP requirements.

. . . IET -- Goal to obtain MOS.

. . . 1st Enlistment -- Pass SQT, qualify for promotion to E-5.

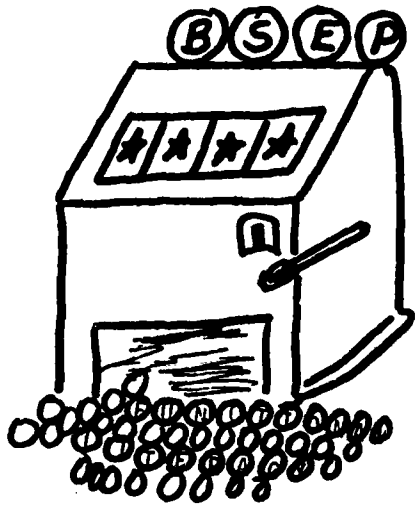
. . . Career -- Advanced skills required for leadership and supervision.

REQUIRED ACTIONS

- Revise Guidance
- Provide Management Structure
- Provide for Curriculum Development

MANAGEMENT PLAN

- TAG Education revise guidance in AR 621-45:
  - Determination of job-related goals
  - Guidance on delivery
  - Inclusion of learning strategies and life coping skills
- Provide materials lists to field
- Provide contract guidance to field.
- Establish management structure for program development/management at TRADOC.
- Contract for Army-specific curriculum development.



ANNUAL PAYOFF

Reduced
Attrition - 2444 Soldiers

($24.4 Million)

Reduced
Pipeline - 1214 Manyears

($ Million)

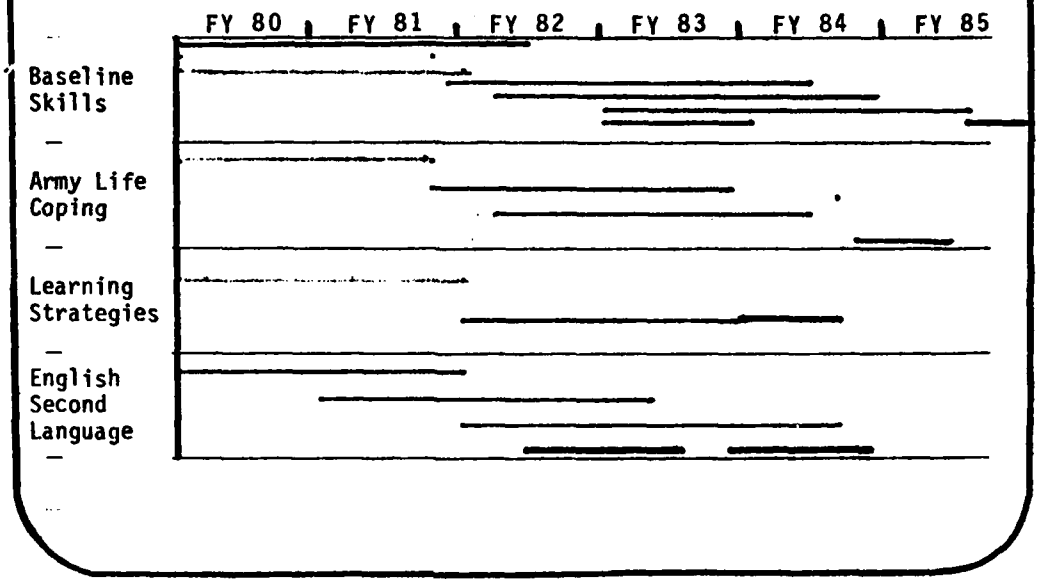
Improved Quality

Reduced Training Problems

PAYOFFS FOR BSEP I

- Attrition Savings (Estimated based on limited experience)
  - •• Training Base assumes 240,000 input + 5% savings of present 14% attrition.
  - •• BSEP II - Assumes 147,000 annual cohort, and 2% savings of present 26% attrition.
- Pipeline Savings
  - •• Current eligible 6%, 6-weeks pullout.
  - •• Projected eligible 40%, 2-day pullout (Reduces pullout by 1200 manyears)
- Improved Training Performance
  - •• Reported by commanders.
- Reduced Training Problems
  - •• Commanders' report, particularly in ESL.

PROGRAM IMPLEMENTATION



PROGRAM IMPLEMENTATION PLAN

- Contract requirements for program development shown overtime.

- Yellow represents analysis requirements:
  - Word frequency analysis
  - Baseline skills learning/cluster analysis
  - Life coping skills needs analysis
  - Learning strategies needs analysis

- Green represents curriculum development:
  - Instructional materials
  - Tests
  - Instructor guides
  - Student workbooks
  - Management Plan

  } For each program

- Red represents evaluation:
  - Demonstration projects
  - MOS cluster
  - Coping skills
  - Learning strategies (included)
  - ESL pre-basic & sustaining
  - All evaluations performance-based.

PAYOFFS FOR BSEP I

- Attrition Savings (Estimated based on limited experience)
  - Training Base assumes 240,000 input + 5% savings of present 14% attrition.
  - BSEP II - Assumes 147,000 annual cohort, and 2% savings of present 25% attrition.
- Pipeline Savings
  - Current eligible 6%, 6-weeks pullout.
  - Projected eligible 40%, 2-day pullout. (Reduces pullout by 1200 manyears.
- Improved Training Performance
  - Reported by commanders.
- Reduced Training Problems
  - Commanders' report, particularly in ESL.

NEEDS ANALYSIS

TO IDENTIFY BASELINE SKILL TRAINING REQUIREMENTS FOR 146 MOS

LEARNING ANALYSIS

ON IDENTIFIED TRAINING REQUIREMENTS

WORD FREQUENCY / CRITICALITY ANALYSIS

FOR 146 MOS

GROUP MOS

GROUPS WITH SIMILAR REQUIREMENT

A DISCUSSION OF CANADIAN FORCES EXPERIENCE IN USING OCCUPATIONAL ANALYSIS SURVEYS TO DETERMINE KNOWLEDGE AND SKILL DATA

BACKGROUND

1. It may be of some help in explaining what we in the Canadian Forces do and why we do it that way if I gave you a little background information before discussing knowledge and skills.

2. Occupational Analysis in the Canadian Forces is the responsibility of the Directorate of Military Occupational Structures which is an organization located in and part of our National Defence Headquarters. Our terms of reference include:

a. planning and developing the MOS for both Officers and Other Ranks and making adjustments to the MOS, as requested, including the addition or deletion of classifications or trades;

b. validating proposals for new or special personnel qualification requirements as a result of changes in Roles, Organizations, new equipment or new technology;

c. determining the impact of capital equipment acquisitions on the MOS;

d. conducting Occupational Analysis of functions, classifications, trades and special problem areas as required; and

e. developing, issuing and controlling the personnel specification for each classification trade or specialty

3. Our Military Occupational Structure is defined as the framework within which all personnel are recruited, selected, trained, posted, promoted, paid and employed. It is used to provide a means of identifying the personnel skills and knowledge necessary to perform the jobs which have to be done by members of the forces.

4. The MOS is essentially a grouping of occupations:

a. for officers into
   (1) Classifications - Security
   (2) Sub-classifications
      (a) Intelligence
      (b) Military Police
   (3) Specialties
      (a) Intelligence Interrogation
      (b) Special Aircraft Security
      (c) VIP Security
      (d) Nuclear Security etc.

b. Other Ranks Into:
   (1) Trades
      (a) MOC 111 - Intelligence Operator
      (b) MOC 811 - Military Police
   (2) Specialties
      (a) 111.02 Tatical Emergency Interpretation
          111.03 Strategic Emergency Interpretation
          111.04 Electronic Warfare Analyst
      (b) 811.07 Senior Police Administration
          811.10 Polygraph Examiner
          811.11 Breathalizer Technician
          811.12 Drug Investigator

5. Each classification, sub-classification, trade or specialty is described by a specification which defines the scope of employment, progression in the career field, medical and security requirements, working conditions and specific hazards, task listings, trade qualification levels, task involvement and knowledge and skill requirements.

.../3

6. Our specifications are a management and control document used throughout the CF personnel management system. This control, of course applies to training, in that training is developed from the specifications. Our specifications are based on Occupational Analysis. Although our training system is quite similar to yours, our training organization does not have an Occupational Analysis capability. In order to overcome this bit of a hole in our system we have been asked by our trainers to make our specifications as detailed as possible so that they can more readily interpret the needs of the user commands into training courses.

7. While I have said that the specification is a management and contral document, it does not specify how the training must be conducted. It details only what training is required, training methodology is left to the training experts.

METHODOLOGY

8. We have incorporated knowledge and skill inventories into our survey questionnaires in much the same manner as task inventories. More about that later. Athough we don't have a lot of experience in putting together surveys which include knowledge and skills, we have found out a few thing which may be of interest to you.

(a) we put our task inventories together by interviewing job incumbents to establish the tasks they do; we have found this to be a relateively easy and effective method. However, it just doesn't seem to work for knowledge and skills. We have not been able to gather knowledge and skill data by interview, so we extract the knowledge and skill statements from training documents, and we, the analysts, put the initial lists together ourselves.

.../4

(b) Once the task, knowledge and skill lists had been put together in draft form a group of carefully selected tradesmen are called in to validate the lists. This system seems to work well. They have been very effective in rounding out the knowledge and skill lists by careful scrutiny of the tasks to ensure that all the knowledge and skills needed to perform the task are included. We made an attempt to have our subject matter experts develop the knowledge and skill lists by inspection of the task list without initial lists prepared by our analysts. This effort was not effective. We would recommend construction of knowledge and skill lists in-house for validation by subject matter experts.

(c) In putting together the knowledge and skill lists we ran into the same problem of specificity that we are all familiar with from developing task lists. Our limited experience has shown us that maintaining a *level of knowledge rather difficult to achieve.* This was not so with skill statements which seem to fall into place quite readily. Unfortunately, because of the many reasons and goals for which we conduct analysis we have not, as yet, been able to gather knowledge and skill in the very specific manner needed for training documents. We are working on this problem and with the arrival of the new CODAP programmes and our own new Optical Mark Reader, we will be able to satisfy the needs of our training community. The only problem in achieving specific knowledge statements is mechanical, that is the larger volume to be processed.

THE SURVEY

9. The instructions to job incumbents who complete the survey are quite explicit as shown on this slide. **SLIDE 1**

.../5

"INSTRUCTIONS - This section contains lists of knowledge and skill required by personnel of your MOC and other MOCs included in this study to perform their job. You are asked to identify those you use in your present job.

REMEMBER - We are analysing your job and not your career. You are to record only those skills and knowledge you use in the performance of your present job. Be careful to ensure that you rate at the level the job requires, not at the level you may have achieved through training or experience.

KNOWLEDGE - In the performance of your job ... rate each knowledge you require at the level you require it.

SKILL - in the performance of your job ... rate each skill you use at the level you use it".

10. Further explanation of how to indicate knowledge and skill is provided as shown on the following slides.

KNOWLEDGE **SLIDE 2**

1. LITTLE - You require familiarity with the subject matter. You apply this knowledge under supervision.
2. The knowledge level you require fits between the definitions of LITTLE and MODERATE.
3. MODERATE - You require an appreciation of theory and application. You apply this knowledge independantly.
4. The knowledge level you require fits between the definitions of MODERATE and SUBSTANTIAL.
5. SUBSTANTIAL - You require an in-depth understanding of theories and application. You apply this knowledge in diverse and difficult conditions.
6. The knowledge level you require fits between the definitions of SUBSTANTIAL and COMPLETE.
7. COMPLETE - You require a thorough understanding of all theories, techniques and procedures. You are required to apply this knowledge under all conditions and provide advice and expertise.

SKILLS

SLIDE 3

1. BASIC - You are a learner and have had some instruction, demonstration and practice in employing this skill under supervision.

2. The skill level you require fits between the definitions of BASIC and SEMI-SKILLED.

3. SEMI-SKILLED - You are required to have sufficient knowledge of and competence in the procedure to conduct it under minimum supervision.

4. The skill level you require fits between the definitions of SEMI-SKILLED and SKILLED.

5. SKILLED - You are required to have sufficient knowledge of and competence in the procedure to conduct it under any condition.

6. The skill level you require fits between the definition of SEMI-SKILLED and SKILLED.

7. HIGHLY-SKILLED - You are required to be a top performer and demonstrate the highest degree of applied knowledge and peformance.

8. The presentation of knowledge and skill inventories is demonstrated in the following slides. We actually use an Optical Scan form with a 7 point scale to gather the information. SLIDES 4&5

9. The next two slides show the forms which are added as loose pages to enable job incumbents to add knowledge and skills they feel we may have missed. We use the same type of form for tasks, equipment and other parts of the survey. SLIDES 6&7

ANALYSIS

10. In current studies we have extracted and presented knowledge and skill

.../7

information in a variety of formats. It is possible to relate knowledge and skills to specific tasks, however we have found this to be rather cumbersome because in some cases a single task could be supported by 20 to 30 specific knowledges and a lesser amount of skills. The task shown on this slide was chosen at random from one of our printouts, a job description of an Anti-Submarine Helicopter Navigator. You can see that some of the knowledges would be used time and time again in support of other tasks.

SLIDE 8

11. Another approach we have taken in the presentation of knowledge and skill information is to compartmentalize the knowledge and skills into groups relating to jobs or duty areas rather than tasks. The first of this series of 3 slides shows the tasks performed, level of involvement and degree of difficulty for a group of Communications Operators. The knowledges and level of knowledge needed to support the same jobs are shown on this slide, followed by the skill list with level of skill.

SLIDE 9
SLIDE 10
SLIDE 11

12. In this next series of three slides we present the same type of information by rank. Of course the three methods of trying tasks, knowledge and skills together which I have shown you does not exhaust the possibilities. The thought I would like to leave you with here is that we have found it extremely difficult to relate knowledge and skill to specific tasks without producing large volumes of information. We group tasks, knowledge and skills together in areas as shown on this extract of a trade specification.

SLIDE 12
SLIDE 13
SLIDE 14
SLIDE 15

13. Our methodology of relating tasks, knowledge and skills to each other is partly a machine function and partly a human function. A validation group (Board of Experts) drawn from operational commands, is used to verify survey results. Some knowledge and skills are changed by this group to reflect user requirements. An example is increasing knowledge requirements in anticipation of introduction of new equipment.

14. In our own broader efforts we have found that clustering knowledge and skills using task diagram criteria very helpful in trade structure problems and broadly speaking support data taken from a task/time diagram.

KNOWLEDGE AND SKILLS

INSTRUCTIONS - THIS SECTION CONTAINS LISTS OF KNOWLEDGE AND SKILL REQUIRED BY PERSONNEL OF YOUR MOC AND OTHER MOCS INCLUDED IN THIS STUDY TO PERFORM THEIR JOB. YOU ARE ASKED TO IDENTIFY THOSE YOU USE IN YOUR PRESENT JOB.

REMEMBER - WE ARE ANALYSING YOUR JOB AND NOT YOUR CAREER. YOU ARE TO RECORD ONLY THOSE SKILLS AND KNOWLEDGE YOU USE IN THE PERFORMANCE OF YOUR PRESENT JOB. BE CAREFUL TO ENSURE THAT YOU RATE AT THE LEVEL THE JOB REQUIRES, NOT AT THE LEVEL YOU MAY HAVE ACHIEVED THROUGH TRAINING OR EXPERIENCE

KNOWLEDGE - IN THE PERFORMANCE OF YOUR JOB .... RATE EACH KNOWLEDGE YOU REQUIRE AT THE LEVEL YOU REQUIRE IT.

SKILL - IN THE PERFORMANCE OF YOUR JOB .... RATE EACH SKILL YOU USE AT THE LEVEL YOU USE IT.

KNOWLEDGE

1. LITTLE — YOU REQUIRE FAMILIARITY WITH THE SUBJECT MATTER. YOU APPLY THIS KNOLWEDGE UNDER SUPERVISION.

2. THE KNOWLEDGE LEVEL YOU REQUIRE FITS BETWEEN THE DEFINITION OF '' LITTLE '' AND '' MODERATE ''.

3. MODERATE — YOU REQUIRE AN APPRECIATION OF THEORY AND APPLICATION. YOU APPLY THIS KNOWLEDGE INDEPENDENTLY.

4. THE KNOWLEDGE LEVEL YOU REQUIRE FITS BETWEEN THE DEFINITION OF '' MODERATE '' AND '' SUBSTANTIAL ''.

5. SUBSTANTIAL — YOU REQUIRE AN IN-DEPTH UNDERSTANDING OF THEORIES AND APPLICATION. YOU APPLY THIS KNOWLEDGE IN DIVERSE AND DIFFICULT CONDITIONS.

6. THE KNOWLEDGE LEVEL YOU REQUIRE FITS BETWEEN THE DEFINITION OF '' SUBSTANTIAL '' AND '' COMPLETE ''.

7. COMPLETE — YOU REQUIRE A THOROUGH UNDERSTANDING OF ALL THEORIES, TECHNIQUES AND PROCEDURES. YOU ARE REQUIRED TO APPLY THIS KNOWLEDGE UNDER ALL CONDITIONS, AND PROVIDE ADVICE AND EXPERTISE.

SKILLS

1. BASIC — YOU ARE A LEARNER AND HAVE HAD SOME INSTRUCTION, DEMONSTRATION AND PRACTICE IN EMPLOYING THIS SKILL UNDER SUPERVISION.

2. THE SKILL LEVEL YOU REQUIRE FITS BETWEEN THE DEFINITIONS OF '' BASIC '' AND '' SEMI-SKILLED ''.

3. SEMI-SKILLED — YOU ARE REQUIRED TO HAVE SUFFICIENT KNOWLEDGE AND COMPETENCE IN THE PROCEDURE TO CONDUCT IT UNDER MINIMUM SUPERVISION.

4. THE SKILL LEVEL YOU REQUIRE FITS BETWEEN THE DEFINITION OF '' SEMI-SKILLED '' AND '' SKILLED ''.

5. SKILLED — YOU ARE REQUIRED TO HAVE SUFFICIENT KNOWLEDGE OF AN COMPETENCE IN THE PROCEDURE TO CONDUCT IT UNDER ANY CONDITION.

6. THE SKILL LEVEL YOU REQUIRE FITS BETWEEN THE DEFINITION OF '' SEMI-SKILLED '' AND '' SKILLED ''.

7. HIGHLY SKILLED — YOU ARE REQUIRED TO BE A TOP PERFORMER AND DEMONSTRATE THE HIGHEST DEGREE OF APPLIED KNOWLEDGE AND PERFORMANCE.

KNOWLEDGE INVENTORY

LEVEL OF KNOWLEDGE

IN THE PERFORMANCE OF YOUR JOB RATE EACH KNOWLEDGE YOU REQUIRE AT THE LEVEL YOU REQUIRE IT

KNOWLEDGE OF:	LITTLE 1	2	MODERATE 3	4	SUBSTANTIAL 5	6	COMPLETE 7
16. MESSAGE STAMPING PROCEDURES							
17. INTERNAL MESSAGE DISTRIBUTION							
18. SERVICE MESSAGE PROCEDURES							
19. CALL SIGNS/ADDRESS GROUP SYSTEMS (DOMESTIC, INTERNATIONAL)							
20. MINIMIZE PROCEDURES							
21. AVAILABLE CIRCUIT ROUTES (TRC/TRV)							
22. ROUTING LINE SEGREGATOR CODE							
23. HALF DUPLEX CIRCUIT PROCEDURES							

SKILL INVENTORY

LEVEL OF SKILL

IN THE PERFORMANCE OF YOUR JOB RATE EACH SKILL YOU USE AT THE LEVEL YOU USE IT

SKILLED IN:		BASIC 1	2	SEMI-SKILLED 3	4	SKILLED 5	6	HIGHLY SKILLED 7
26.	EXTRACTING PERTINENT INFORMATION FROM BRIEFINGS							
27.	PREPARING PLOTS/MAPS							
28.	MAINTAINING PLOTS							
29.	USING MAPS							
30.	PREPARING GRAPHS/CHARTS							
31.	MAINTAINING GRAPHS/CHARTS							
32.	SPLICING CABLE LINES							

ADDED KNOWLEDGES

IF THERE ARE ADDITIONAL KNOWLEDGES WHICH COME TO MIND THAT YOU FEEL ARE REQUIRED FOR YOU TO DO YOUR JOB, RECORD THEM ON THIS PAGE. MAKE SURE YOU RATE THE LEVEL OF EACH KNOWLEDGE YOU ADD.

LEVEL OF KNOWLEDGE

IN THE PERFORMANCE OF YOUR JOB RATE EACH KNOWLEDGE YOU REQUIRE AT THE LEVEL YOU REQUIRE IT

1 LITTLE
2
3 MODERATE
4
5 SUBSTANTIAL
6
7 COMPLETE

KNOWLEDGE OF:

ADDED SKILLS

LEVEL OF SKILL

IN THE PERFORMANCE OF YOUR JOB . RATE EACH SKILL YOU USE AT THE LEVEL YOU USE IT

1 BASIC
2
3 SEMI-SKILLED
4
5 SKILLED
6
7 HIGHLY SKILLED

SKILLED IN:

_____ ⌊_⌋
_____ ⌊_⌋
_____ ⌊_⌋
_____ ⌊_⌋
_____ ⌊_⌋
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AD-A080 799 ARMY TRAINING DEVELOPMENTS INST FORT MONROE VA F/G 5/9
PROCEEDINGS OF THE TRADOC CHIEFS OF ANALYSIS SEMINAR (3RD) HELD--ETC(U)
JAN 80

UNCLASSIFIED NL



END
DATE FILMED
3-80
DTIC

D-TSK	TASK DEFINITION	LEVEL	KNOWLEDGES-SKILLS
G011	DO	* DETERMINE ACOUSTIC TARGET RANGE	
		KNOWLEDGE OF:	
		K008	TYPES OF OCEANOGRAPHIC CONDITIONS (SEA STATE, SWELL, SURFACE WIND)
		K009	PHYSICS OF SOUND PROPAGATION IN WATER
		K010	ACOUSTIC RANGE PREDICTION FORMATS
		K021	DIGITAL SPECTRUM ANALYSIS THEORY
		K123	CAPABILITIES AND LIMITATIONS OF ACOUSTIC SYSTEMS
		K124	CAPABILITIES AND LIMITATIONS OF SONOBUOYS SONAR
		K127	EFFECTS OF OCEANOGRAPHIC CONDITIONS ON EQUIPMENT PERFORMANCE
		K128	VESSEL CONSTRUCTION AND OPERATING CHARACTERISTICS
		K130	ACOUSTIC OPERATIONAL PROGRAMS
		K132	LOFAR PROCEDURES TECHNIQUES
		K134	MATRIX PROCEDURES TECHNIQUES
		K142	DIFAR PROCEDURES TECHNIQUES
		K143	ARRAY FIXING PROCEDURES/TECHNIQUES
		K145	CRT DISPLAY FORMATS
		K227	AURORA TACTICS PROGRAM
		SKILL IN:	
		S001	INTERPRETING SYMBOLOGY
		S010	ASSESSING TACTICAL INFORMATION
		S016	INTERPRETING AURAL SIGNALS
		S019	ASSESSING PERFORMANCE OF EQUIPMENT
		S022	DETERMINING CONTACT TARGET CHARACTERISTICS
		S025	INTERPRETING SCOPES/DISPLAYS
		S031	APPLYING PRINCIPLES AND THEORYS
		S033	APPLYING PROCEDURES
		S036	OPERATING INTEGRATED SYSTEMS
		S046	EVALUATING DATA
		S047	MEASURING ACCURATELY
		S051	MAKING MATHEMATICAL CALCULATIONS
G012	DO	* PERFORM MINIMUM DISCERNIBLE SIGNAL (MDS) CHECK ON ACOUSTIC SYSTEMS	
		KNOWLEDGE OF:	
		K124	CAPABILITIES AND LIMITATIONS OF SONOBUOYS/SONAR
		K130	ACOUSTIC OPERATIONAL PROGRAMS
		K145	CRT DISPLAY FORMATS

TASKS

NO	TASK	OPERATORS												SUPERVISORS										SR SUPERVISORS					
	INVOLVEMENT: A - Assist; D - Do; DS - Do & Supervise; S - Supervise. DIFFICULTY: 1 LOW, 2, 3, 4, 5 AVERAGE, 6, 7 HIGH	TAC RADIO OP	RMB OP	ROVER OP	RR OP	HY RADIO OP	COMCEN OP (FMC)	COMCEN OP (CFCC)	NODE OP	TECH CON/TCF	FCC OP	AGA/MACS OP	TAC RADIO DET CMD	RMB DET CMD	RR DET CMD	HY RADIO DET CMD	COMCEN SHIFT SUPR	COMDET CMD	COMCEN SUPR	FCC SUPR	AGA/MACS SUPR	RADIO TP SGT	TROOP MD	CHIEF COMM OP	COMM SUPT	AGA/MACS SUPT	OPS MD	RSM/SSM
226	INSTALL COUNTERPOISE																												
227	TUNE TRANSMITTERS	D 2	D 3	D 2	D 2	D 2						D 2	DS2	DS2	DS2	DS2					DS2	DS2	DS2						
228	TUNE RECEIVERS	D 2	D 3	D 2	D 2	D 2				D 3	D 3	D 2	DS2	DS2	DS2	DS2				DS2	DS2	DS2	DS2						
229	INSTALL REMOTE EQUIPMENT	D 2	D 3	D 2		D 3							DS2	DS2		DS3						DS2	S 2						
230	PERFORM RADIO OPENING CLOSING DRILLS	D 2	D 2	D 2	D 1	D 2				D 2	D 2	D 2	DS2	DS1	DS1	DS3				DS2	DS2	DS2	S 2	DS1					
231	PERFORM RADIO CHECKS	D 1	D 2	D 1	D 1	D 2				D 2	D 2	D 2	DS1	DS1	DS1	DS2				DS2	DS2	DS1	S 1	DS1					
232	SEND MESSAGES USING RADIO TELEPHONY	D 2	D 3	D 2		D 2						D 3	DS2	DS2		DS2					DS2	DS2	DS2	DS2					
233	RECEIVE MESSAGES USING RADIO TELEPHONY	D 2	D 3	D 2		D 2						D 3	DS2	DS2		DS2					DS2	DS2	DS2	DS2					
234	RECEIVE MESSAGES USING MORSE CODE											D 3									DS3								
235	SEND MESSAGES USING MORSE CODE											D 3									DS3								
236	MONITOR RADIO FREQUENCIES	D 2	D 2							D 2	D 2	D 2	DS2	DS1						DS2	DS2			S 1					
237	RECORD FREQUENCY PERFORMANCE		D 2							D 3	D 3	D 2		DS2						DS2	DS2		DS2	S 2					
238	PREPARE RADIO HARMFUL INTERFERENCE REPORTS (RHIR)		A 2							D 3	D 3	D 2		D 2						DS3	D 2			DS3					
239	PERFORM ANTI JAMMING DRILLS	D 3	D 3	D 5		D 2							DS2	DS2		DS2							DS2	DS4					
240	PREPARE JAMMING REPORTS (BEACONING INTRUSION JAMMING REPORTS)												D 3										DS3	DS5					
241	PREPARE UPDATE RADIO NET DIAGRAMS	D 2	D 3			D 2							DS2	DS2		DS2						DS2	DS2	DS2					
242	FILE RECORD CHANGES TO AIRCRAFT FLIGHT PLANS											D 2									DS2								
243	SUBMIT REQUEST FOR SPECIAL METEOROLOGICAL FORECAST											D 2									DS2								

KNOWLEDGES

LEVELS OF KNOWLEDGE
1 LITTLE
2
3 MODERATE
4
5 SUBSTANTIAL
6
7 COMPLETE

NO		OPERATORS											SUPERVISORS										SR SUPERVISORS					
		TAC RADIO OP	RRB OP	ROVER OP	RR OP	HV RADIO OP	COMCEN OP (FMC)	COMCEN OP (CFCC)	NODE OP	TECH CON/TCF	FCC OP	AGA/MACS OP	TAC RADIO DET COMD	RRB DET COMD	RR DET COMD	HV RADIO DET COMD	COMCEN SHIFT SUPR	COMDET COMD	COMCEN SUPR	FCC SUPR	AGA/MACS SUPR	RADIO TP SGT	TROOP WO	CHIEF COMM OP	COMM SUPT	AGA/MACS SUPT	OPS WO	RSM/SSM
109	TELEPHONE ACCOUNTING PROCEDURES																							4			3	
110	EQUIPMENT SERVICING AND MAINTENANCE PROGRAMS	3	2		4	3	3						3	4	4	4		3			1	4	4	2				1
111	VEHICLE SERVICING AND MAINTENANCE PROGRAMS	4	3	4	4	3	4						4	4	4	4						4	4	[illegible]				[illegible]
112	OPERATOR MAINTENANCE ROUTINES AND PROCEDURES	4	4	4	5	4	4	4	4	4	4	4	5	5	5	5	5	5	4	[illegible]	[illegible]	5	5	4			4	
113	VEHICLE RECOVERY PROCEDURES	3	3	4	4	3	4						3	4	4	4						3	3	3				3
114	COMMS EQPT INSTALLATION/REMOVAL PROCEDURES	5	5	5	5	4	5						5	5	5	5						5	4	3	3			
115	EQUIPMENT REMOTING PROCEDURES	5	3	5		4							5	5		5						5	4	6		5		
116	CHARACTERISTICS OF CF COMMS EQPT	4	3	3	3	3	4	3	3	4	4	3	4	4	4	4	4	3		3	4	3	4	6	3		4	
117	CHARACTERISTICS OF ALLIED FORCES COMMS EQPT																					[illegible]	[illegible]	4			3	
118	EQPT OPERATING PROCEDURES	5	4	5	5	5	5	5	5	5	5	5	5	6	6	5	5	5	5	5	5	5	4	5	3	7	[illegible]	
119	SWITCHBOARD OPERATOR PROCEDURES	4				3			3	3	3	3	4			4						4	3	4			4	
120	EQPT TRIALS AND EVALUATION PROCEDURES																						[illegible]	4				
121	EQPT TRIAL DIRECTIVES																							4				
122	LINE LAYING TECHNIQUES	3	2			2							3	3	3	3						3	3	3				
123	VEHICLE ACCIDENT PROCEDURES	3	3	3	3	3	4						4	4	4	[illegible]						3	4	3				3
124	OTHER RANKS CAREER PROGRESSION POLICY								[illegible]				3	4		3	3	4	3	4	3	4	5	4	5	4	4	6
125	CANADAIN FORCES PERSONNEL EVALUATION REPORTING SYSTEM								3				5	5	5	5	5	5	[illegible]	[illegible]	[illegible]	5	6	6	5	7	6	6
126	CF LEAVE POLICY	[illegible]	3	3	3	3	3	3	4	3	3	4	4	4	4	4	4	5	[illegible]	4	4	[illegible]	5	5	4	4	5	6

SKILLS

LEVELS OF SKILL
1 BASIC
2
3 SEMI-SKILLED
4
5 SKILLED
6
7 HIGHLY SKILLED

NO		OPERATORS											SUPERVISORS										SR SUPERVISORS					
		TAC RADIO OP	RRB OP	ROVER OP	RR OP	HY RADIO OP	COMCEN OP (FHC)	COMCEN OP (CFCC)	NODE OP	TECH CON/TCF	FCC OP	AGA/HACS OP	TAC RADIO DET COMD	RRB DET COMD	RR DET COMD	HY RADIO DET COMD	COMCEN SHIFT SUPR	COMDET COMD	COMCEN SUPR	FCC SUPR	AGA/HACS SUPR	RADIO TP SGT	TROOP MD	CHIEF COMM OP	COMM SUPT	AGA/HACS SUPT	OPS MD	RSM/SGM
001	INTERPRETING SYMBOLOGY (MAPS/CHARTS/ MILITARY SYMBOLS)	3	3	3	3	2	3					3	3	4	4	4					2	4	4	4	4	2		5
002	IDENTIFYING GROUND FEATURES	3	4	3	3	3							3	4	4	3						5	4	5				5
003	IDENTIFYING PRESENCE OF ELECTRONIC JAMMING	3	3	3	4	3						2	4	4	3	4					2	5	4	6				
004	IDENTIFYING TYPES OF ELECTRONIC JAMMING INTERFERENCE	3	3	2		3				3	3	2	4	4	3	4				3	3	4	4	6				
005	RECOGNIZING ABNORMALITIES DEFECTS IN EQUIPMENT	4	4	4	4	3	4	3	3	4	4	3	4	5	4	5	4	3	3	4	4	5	4	4		5		
006	INTERPRETING AURAL SIGNALS																											
007	ASSESSING THE PERFORMANCE OF EQUIPMENT	3	3	3	3	3	3	3	3	4	4	3	3	4	4	4	4	3	3	3	4	4	4			5		
008	ASSESSING THE PERFORMANCE OF PERSONNEL												4	5	4	5	5	5	5	5	5	5	5	6	7	6	6	6
009	DETERMINING TACTICS TO BE EMPLOYED												3	3								4	3					5
010	INTERPRETING SCOPE DISPLAYS					3				4	4									3								
011	INTERPRETING INSTRUMENT READINGS					4				4	4					4				4								
012	INTERPRETING WRITTEN INSTRUCTIONS ORDERS	4	4			4	4	4	4	4	4	4	4	5	5	4	5	5	5	4	5	5	5	6	7	5	5	5
013	INTERPRETING VERBAL INSTRUCTIONS ORDERS	4	5	4		4	4	4	4	4	4	5	4	4	5	5	5	5	5	4	5	5	5	6	7	5	6	5
014	ENCODING/DECODING	5	5	5		4	5		5			5	5	6	4	5	5	5	5		5	6	4	5				3
015	ENCRYPTING/DECRYPTING						5	5	5			4					5	6	6		5							
016	SENDING MORSE CODE											5									5							
017	RECEIVING MORSE CODE											5									5							
018	READING MURRY CODE					2	4	4				3				2	5	4	4		4							

SLIDE 11

SLIDE 12

TASKS

NO.	TASK INVOLVEMENT A - ASSIST D - DO DS - DO & SUPERVISE S - SUPERVISE DIFFICULTY 1 - LOW 2 3 4 - AVERAGE 5 6 7 - HIGH	NEW TRADE PTE 3	PTE 4	CPL	MCPL	SGT	WO	MWO	CWO
	DUTY AREA - 1 RADIO OPERATIONS								
215	SITE RADIO DETACHMENTS	A 3	A 4	D 4	D 4	D 4	DS 4		
216	SELECT ANTENNAE	A 2	D 2	D 2	DS 2	DS 2	S 2		
217	SITE ANTENNAE	A 3	D 3	D 3	DS 3	DS 3	S 3		
218	CALCULATE ANTENNA LENGTH	D 3	D 3	D 3	DS 3	DS 3	S 3		
219	CONSTRUCT/BUILD ANTENNAE	A 3	D 3	D 3	DS 3	DS 3	S 3		
220	ERECT ANTENNA MAST/SUPPORTING STRUCTURES	A 3	D 3	D 3	DS 3	DS 3	S 3		
221	CONSTRUCT SAFETY PERIMETER AROUND HIGH POWER ANTENNA SITES	A 2	A 2	D 2	DS 2	DS 2			
222	MARK SAFETY PERIMETER AROUND HIGH POWER ANTENNA SITES	A 2	A 2	D 2	DS 2	DS 2			
223	ERECT ANTENNA	D 2	D 2	D 2	DS 2	DS 2	S 2		
224	CHECK ANTENNA SERVICEABILITY	D 2	D 2	D 2	DS 2	DS 2	DS 2		
225	ADJUST ANTENNA TO IMPROVE STANDING WAVE RATIO	D 3	D 3	D 3	DS 3	S 3			

SLIDE 13

KNOWLEDGES

NO.	LEVELS OF KNOWLEDGE 1 - LITTLE 2 3 - MODERATE 4 5 - SUBSTANTIAL 6 7 - COMPLETE	NEW TRADE							
		PTE 3	PTE 4	CPL	MCPL	SGT	WO	MWO	CWO
043	CRYPTO SECURITY	4	4	5	5	5	6	6	6
044	RADIO TELEPHONE PROCEDURE	4	5	5	5	5	5	5	5
045	RADIO TELEGRAPH PROCEDURE			5	5	5	5	5	5
046	TELETYPE PROCEDURE	4	5	5	6	6	6	6	6
047	CORRESPONDENCE FILING SYSTEMS					4	4	4	4
048	DIARY CONTENT REQUIREMENT	3	4	4	4	5	5	6	6
049	EMERGENCY POWER SWITCHOVER PROCEDURES	3	5	5	5	5	5	5	5
050	SIGNALLING SPEEDS (BAUD/WORDS PER MINUTE)	2	3	4	4	4	4	4	4
051	LINE CHARACTERISTICS (LOW/HIGH LEVEL KEYING)			3	3	4	4	4	4
052	FREQUENCY SHIFT KEYERS AND CONVERTERS	2	2	4	4	4	4	4	4
053	PATCH AND TEST PROCEDURES		3	4	4	4	4	4	4

SLIDE 14

SKILLS

NO.	LEVELS OF SKILL 1 - BASIC 2 3 - SEMI-SKILLED 4 5 - SKILLED 6 7 - HIGHLY SKILLED	NEW TRADE							
		PTE 3	PTE 4	CPL	MCPL	SGT	WO	MWO	CWO
001	INTERPRETING SYMBOLOGY (MAPS/CHARTS/ MILITARY SYMBOLS)	3	3	3	4	4	4	4	4
002	IDENTIFYING GROUND FEATURES	3	3	3	4	4	4	4	4
003	IDENTIFYING PRESENCE OF ELECTRONIC JAMMING	3	4	4	5	5	5		
004	IDENTIFYING TYPES OF ELECTRONIC JAMMING/INTERFERENCE	3	4	4	5	5	5		
005	RECOGNIZING ABNORMALITIES/DEFECTS IN EQUIPMENT	3	4	5	5	5			
006	ASSESSING THE PERFORMANCE OF EQUIPMENT	3	4	5	5	5			
007	ASSESSING THE PERFORMANCE OF PERSONNEL				4	5	6	6	6
008	DETERMINING TACTICS TO BE EMPLOYED				3	3	4	5	5
009	INTERPRETING WRITTEN INSTRUCTIONS/ORDERS	3	4	4	5	5	5	6	6
010	INTERPRETING VERBAL INSTRUCTIONS/ORDERS	3	4	4	5	5	5	6	6
011	ENCODING/DECODING	3	4	5	5	5			

ORGANIZING TD FOR MAXIMUM RETURN ON RESOURCES

A BRIEFING
DELIVERED TO TRADOC
ASSISTANT COMMANDANTS' CONFERENCE
16 JUNE 1978
AND
TRADOC COMMANDERS' CONFERENCE
1 SEPTEMBER 1978

by
Dr. Francis L. Rose
Deputy Assistant Commandant – Educational Technology
U. S. Army Transportation School
Fort Eustis, Virginia 23604

ORGANIZING TD FOR MAXIMUM RETURN ON RESOURCES

The organization and operational system described in this briefing results from several sources and several key participants. First, the system is a result of a charge by Major General John W. Seigle, DCST, TRADOC, in October 1977 to ". . . suggest a process that will produce the desired interactions . . ." among training development, training, and evaluation directorates within TRADOC schools. Second, the basic system design stemmed from several years' experience by the author working within the private sector as an executive of education and training corporations, and from several years' experience by Colonel Franklin A. Hart both as President of the US Army Combat Arms Training Board and as Director of the US Army Training Developments Institute interfacing with various education and training companies, consultant groups, and military schools. Third, the system results from an organizational trial begun at the US Army Transportation School in late 1977 and continuing to date within the Directorate of Training Developments with the cooperation of Directorate of Training and the Directorate of Evaluation.

The purpose of this briefing is to give you insight into another way of organizing for your TD mission. At the conclusion of the briefing you should be able to do these things:

1. Reduce your resource losses from bad interface among branches of TD and bad interface between TD and DOT.

OBJECTIVE # 1

INCREASE RETURN ON RESOURCES THROUGH ELIMINATION OR MINIMIZATION OF INTERFACE LOSSES

2. Reduce the cost of the training products such as SM's and CM's, job books, and SQT's, and at the same time raise the quality of these products.

OBJECTIVE # 2

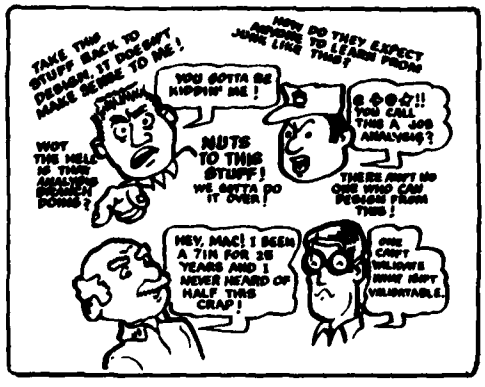
REDUCE RESOURCES INVESTMENT IN TRAINING MATERIALS THROUGH BY-PRODUCT CONVERSION

Specifically, first we will talk about task force organization of the TD process. Second, we will talk about the training materials production process, and attempt to clarify the by-product/product relationships in that process.

Before we go further, let me introduce Colonel Bill Rudd, USATSCH DTD, who will be available to answer questions with me during the Q&A session.

During the past year, several conditions which we considered to be undesirable caused Colonel Rudd and his staff to consider alternative ways of operating. First, the overhead requirement for training time versus necessary production toward a very demanding installation contract created a constant juxtaposition of managerial interests - you can't achieve quality without highly trained people, but you can't meet the contract with your people in training.

Second, we had interface problems, both intramural DTD and extramural with DOT and DEV (what we call the Directorate of Evaluation).



The comments you read from the slide are actually from our halls and work rooms. In this business, they are just about the most expensive comments you can hear. They all cost money - either from high-priced workers grousing rather than working or from redo of misunderstood products.

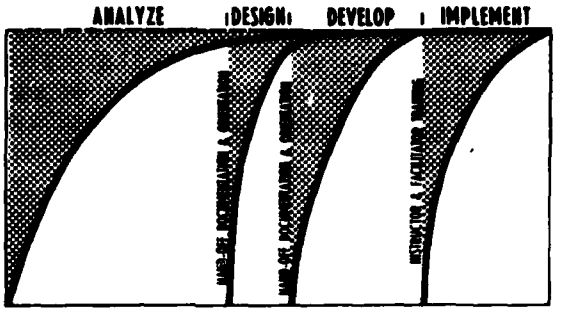
Our present school organization scheme in DTD, with branches corresponding to steps of the ISD process, tends to sponsor compartmentalization of the TD system elements. Despite substantial management effort to eliminate the effects of compartmentalization, isolation and insulation remain along with their attendant communication problems as constant management challenges.

IN THE PRODUCTION BUSINESS, YOU LOSE YOUR MONEY AT POINTS OF INTERFACE BETWEEN PRODUCING UNITS.

OBJECTIVE:

ELIMINATE THE INTERFACES OR MINIMIZE THE EFFECT OF INTERFACE.

Interface resource losses can be illustrated by using a learning curve. The chart on screen two lays out somewhat proportionately the first three phases of ISD, which take you into the fourth or implementation phase.



NON-PRODUCTIVE & UNDER-PRODUCTIVE TIME BY TRAINING DEVELOPERS BECAUSE OF LEARNING CURVES IN TASK-FORCE AND SPECIALIZED-BRANCH ORGANIZATIONAL PATTERNS

You invest something in a learning curve whenever you begin original curriculum development. That period of nonproductivity and under productivity is observable in the analysis phase. One cannot predict the amount of that loss which will actually occur, but it is fully predictable that some amount of loss will take place in start up.

When you hand off your work from one production group to another, you give up what the persons in the first group have learned. Thus we experience a second learning curve loss going into design, another going into development, and yet another going to DOT for implementation. Moreover, some percentage of the resources expended in the previous branch have been expended on preparing hand-off documentation and materials. Furthermore, before we are done with the system we will waste even more time in meetings between the branches briefing, orienting, and arguing; and when personality differences and petty rivalries come into play, those interface losses can amount to more time than is actually spent in productive work.

Worse, that functional branch scheme of organization sponsors the notion that the TD system elements are clearly defined discrete steps of a prescribed procedure and thereby sponsors a purely mechanistic approach, rather than creative approach, to training products development.

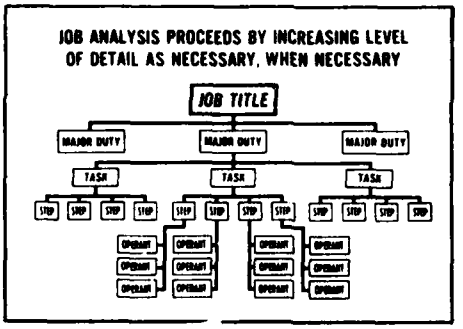
MOST ACTIONS IN A TRAINING MATERIALS DEVELOPMENT SYSTEM SHOULD BE CONTINUOUS PROCESSES, NOT STEP-BY-STEP MOVEMENTS.

OBJECTIVE:

DEVELOP A SYSTEM IN WHICH A PRODUCT CAN BE FIXED ON-THE-SPOT.

The organizers seemed to imagine the training developments process as a mechanical procedure which can be precisely executed something like close-order drill --- "Double time, analyze!" --- "About, design!"

Just the opposite is true. The use of the Army's ISD process, as well as all others with which I am familiar, requires a substantial amount of creativity. One must learn to use the TD system elements as tools of a scientific and creative process before he can produce a quality product. At times one uses analyzing skills. At other times he uses designing skills. But he is never finished analyzing or designing.

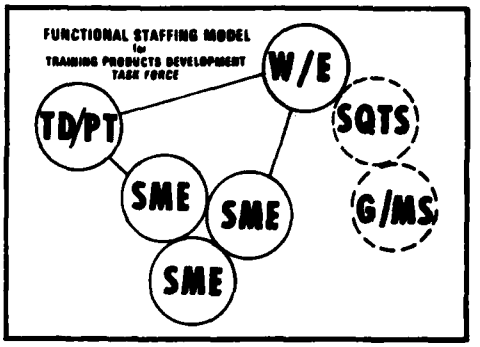


Job analysis goes on in every element of the TD process. Moreover, it is important to the bottom line that we do only the work we need to do to achieve a quality product. For instance, we take job analysis only to the level of detail necessary for sound design. If we are working ITDT, this likely means to the operant level -- that is, to a single stimulus-response relationship; the least denominator of a job. However, if we are working a lock-step lecture, this likely means to the task level. We return to analysis at various times in both design and development activities as need dictates. While we must do all that is necessary to achieve quality, to take everything to the operant level is problem solving beyond the value of the solution.

Back to screen one. The TD process is not unlike all other design-as-you-build engineering processes. It's the way we built Saturn. It's the way we built Blackhawk. It's the way training is developed. The ability to retreat to square one and reanalyze or redesign is critical to quality products. The training developer must be able to invent a solution for a bad product on the spot, whether that solultion takes reanalysis, redesign, redevelopment, or all three. The functional branch organization tends to preclude that ability to retreat. In short, a functional branch organization leaves no one person in charge of an MOS or system and all its attendant products.

Now for the good news. The situations I speak of are neither unique to the T-School nor unique to the Army. They are inherent to the process. Whenever one needs to establish a procedural model and express that model as steps, those situations will occur. All commercial curriculum development organizations and publishing organizations with which I am familiar have faced those situations. And all confronted them with some variation of the theme Colonel Rudd and his staff have elected - an interdisciplinary task-force staffing which places responsibility for all elements and products of the TD process with the same persons.

This illustration gives you our experience to date concerning optimal staffing of a TD task force. The model is somewhat different than the one we started with several months ago, and it is somewhat different from any I have seen before. At this point in time it is approaching T-School unique. We will explain this mess of abbreviations as we go through the model.



Critical to understanding the model is understanding the roles of each player; no player is key - the team is key, and the team cannot fully operate without each function of the team fully operating.

The circle marked TD/PT is the task force training technologist. The letters stand for "training developer" and "performance technologist." Colonel Hart and I would love to develop the nuance of "performance technologist" rather than "training technologist." However, we are told it is unwise to introduce another group of new terms, so let's just call the guy the "training developer." Whatever he's called, he's the headcandler who knows how people learn. He is a curriculum mechanic. He knows how to analyze, how to design, and how to develop training materials.

In beginning the system, I assigned my five most skilled technologists from the Staff and Faculty Development group to function as supernumerary training developers in the task forces we originally started. As soon as a replacement technologist was trained, the trainer moved to a new team and started it up while continuing to serve as a consulting resource to his original task force. Eventually, we probably will have 27 task forces in operation with four full-time trainers consulting and assisting at a span of 7 task forces to one trainer. And, I might add, both the time of the trainer and of the trainees are legitimately creditable to direct mission in your TRAMIS system. They all are working on actual products.

Other than a curriculum expert, the role of the training developer in the team is difficult to fully describe. He is not always the team manager. He may be. He may be either civilian or military. He may be either officer or enlisted. He must be thoroughly expert in the nature of SM's, CM's, job books, SQT's, etc. He is the person who must be able to think in terms of the system and to see the relationship of one part to another when changes are required.

And he usually can't write worth a darn. The W/E blip is a writer/editor. Our experience is that neither the subject matter experts nor the training developer write very well. What the writer/editor function does is insert quality of expression and format control. This person should know how to write an extension lesson, how to write an ITDT package, and just how to write. A task force can function without one, but it will not function well.

The "SQT's" is a SQT specialist. The SQT is too complicated to avoid specialization. We expect that role to be about half-time per task force.

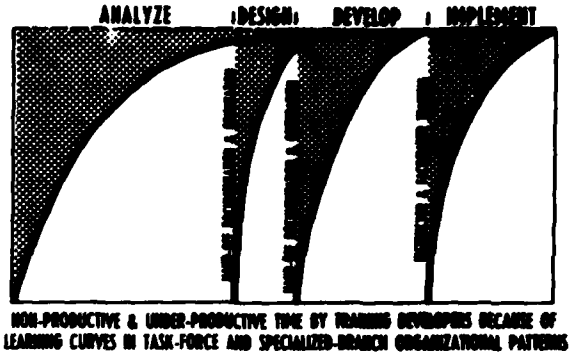
The "G/MS" is a graphics and/or media specialist. We don't know how to predict how many of these a task force will need. It depends on the MOS and the learning design.

The "SME" cluster at the bottom represents "subject matter experts." We are presently thinking that three SME's likely are the best model staffing. Actually, we think the task force operates most efficiently with two SME's present. Two provide adequate input and sustain adequate progress, and three stretch the other functions a bit too much. However, in order to keep two present--since SME's most often are NCO's subject to many extra demands such as staff duty NCO, inventory teams, ceremonies, etc.--three must be assigned. However, one should think of SME's in terms of both full time and full time equivalent. Little seems to be lost from the quality of operation, if an SME serves only for a specific duty position of an MOS and not the entire MOS as long as some continuity exists among the SME's --- perhaps one or two SME's constant and two or three rotating in the other slot. As long as SME's are familiar with the basic intent of CRI and fully familiar with nature of the products the task force will produce, the process seems to work.

It is presently TRADOC policy that even though you draw SME resources based on training developments staffing formulae, those resources may be assigned wherever you feel they can best accomplish your mission. I believe that all subject matter expertise should be payrolled with DOT. I can see no advantage, and I can see much disadvantage to payrolling subject matter expertise within DTD and in most instances within DEV. To place SME's in DTD takes them out of realistic contact with the MOS for an overly long period, and it engenders severe conflict between the two prime SME groups--DTD and DOT. After all, the objective of this whole process is to help subject matter experts deliver more effective and efficient training, not to sponsor debate about who's expert is the expert.

Moreover, I can vouch that the Symposium members who originally recommended School Model '76 intended that DOT own subject matter expertise; DTD own the training, writing, and graphics technologists; and that Evaluation be a few smart training auditor types who watch them both. Regardless of who owns the assets one thing is clear. One thing I will promise. If your school trainers are not thoroughly, actively involved from square one with the development of those courses they will teach, you will play hell implementing them. The subject matter experts who serve in the products development task force should be the same ones who perform as instructors in the small group trials, validation iteration, and who eventually are key in the implementation of the course in DOT. The largest single deterrent to implementation of courses which have been tightly engineered - in my experience, in doing these courses from elementary school arithmetic to college physics, to graduate-level continuing engineering education, to AIT mechanics training - is the reluctance of subject matter

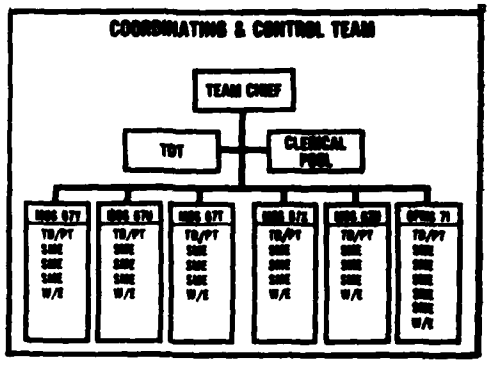
experts to be confined by some other subject matter experts' judgment --- the reluctance of one to teach other than his own tastes and beliefs --- a kind of pride-of-authorship which has been at some levels institutionalized under the handle of academic freedom. Payrolling the SME's in DOT and lending them back to DTD will almost entirely eliminate the interface loss between phases 3 and 4.



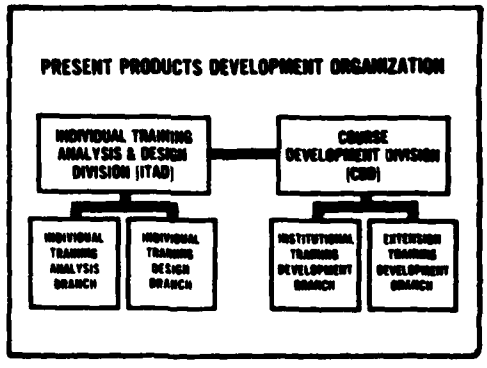
NON-PRODUCTIVE & UNDER-PRODUCTIVE TIME BY TRAINING DEVELOPERS BECAUSE OF LEARNING CURVES IN TASK-FORCE AND SPECIALIZED-BRANCH ORGANIZATIONAL PATTERNS

And that's what a training developments task force, at least in our opinion, looks like.

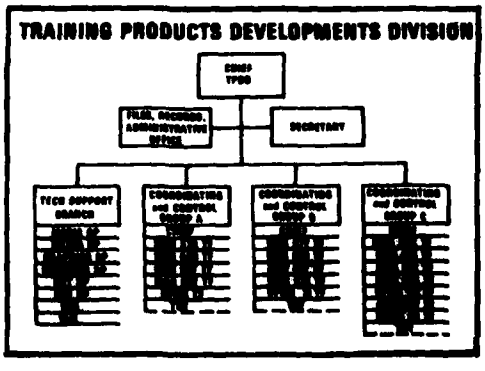
But if we organize all development activities into task forces, then what is the next higher unit? We believe it is a coordinating and control team or branch. One might look like this. Please notice the permanently assigned staff and faculty trainers at the chief's right hand.



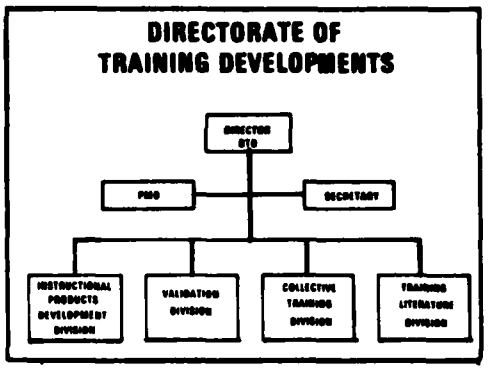
Presently you have two DTD divisions with four functional branches doing prime ISD work. Under this scheme, one division will do.



It's a fairly simple organization - a training products development division. In the TPDD, a tech support branch administrates the media folks, graphics folks, SQT folks, and the writer/editors. Several coordinating and control teams administrate the task forces, and an administration group counts the beans and keeps the files.



The DTD might then look like this; and I point out - might. This is only one way. Ours might not finally look this way. Yours might not look like ours. It is worth noting that we currently believe the validation unit should be a small, free-standing organization to function as the DTD's honest broker. Remember, the SME's for this unit are going to come with the product to be validated. Not many permanent people are needed here.



At some point we likely will figure how to blend the collective group into the task forces; we haven't yet.

And institutionally, we have now split our training literature division. The field manual folks have gone back to Combat Developments to team in the concepts and studies arena. The training circular people likely will blend into the task forces as specialists at a later time.

These are the lessons we think we have learned to date - some 7 months down the pike. I believe everything here has been previously explained.

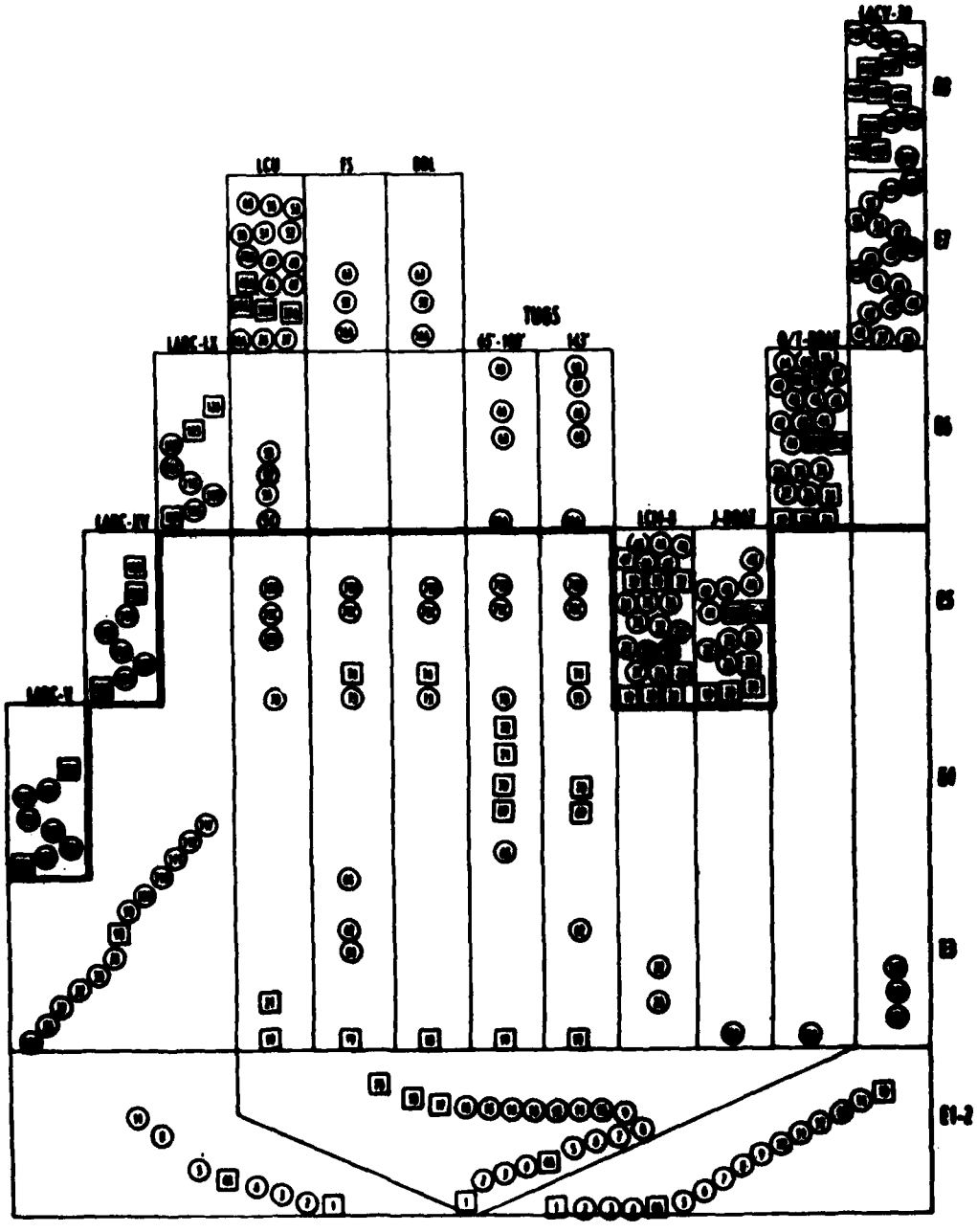
LESSONS LEARNED - TRAINING PRODUCTS DEVELOPMENT TASK FORCES

1. ONLY ONE TEAM PER MOS
2. TD/PT MUST REMAIN CONSTANT
3. USE YOUR BEST AS TD/PT MILITARY OR CIVILIAN
4. PUT SOMEONE IN CHARGE FOR ACCOUNTING AND ADMINISTRATIVE CHORES
5. WRITER/EDITOR MAY SPLIT BETWEEN TEAMS
6. SME'S MUST REPRESENT EXPERIENCE IN ALL DUTY POSITIONS OF MOS
7. SME'S NEED NOT BE FULL TIME AND MAY SPLIT OR ROTATE
8. ESTABLISH INTERIM MILESTONES AND CHECKMARKS JOB BY JOB
9. TASK FORCES CANNOT FUNCTION WITH SD, EXTRA ACTION, OR OTHER INTERFERENCE TASKS LEAVE THE TASK FORCE IN PLACE, UNMOLESTED
10. SME'S SHOULD PERFORM AS VALIDATION CYCLE INSTRUCTORS, SMALL GROUP TRIAL INSTRUCTORS, ETC
11. SME'S MOVE TO DOT TO IMPLEMENT COURSE WHEN CYCLE IS COMPLETE
12. INVOLVE THE TRAINERS FROM SQUARE ONE
13. WORK MOS AS A WHOLE
14. PANEL FREQUENTLY
15. LET BY PRODUCTS FALL OUT RATHER THAN FORCE THEM OUT

Item 9 is worth expanding. If you steal the TD - you put the whole task force into down time. The same is true for prolonged SME absence. The developer can't function without SME's. The writer/editor has to have enough copy. If you go the task force route don't molest the task forces. You have to leave them whole. Remember, it's a team and the team cannot function without all its players. You might have to staff elsewhere with DA or TRADOC or integrating center tasker crews. But leave your TD task forces alone.

Item 13 also bears expansion. It makes much sense and money to develop an MOS learning map for the entire MOS so that one can see what needs to be in 10 level and what naturally falls to 20 level, etc. In fact, it's critical to see the whole MOS rather than just parts. And, in fact, we

have learned that where a crew is involved, such as our boats, you need to see the whole system at one time. Some of the errors that honest, hard working guys make -- like having a skill in 20 level extension which learning analysis shows is prerequisite to a 10 level resident task -- will be eliminated through this approach. The little chart here shows what one MOS learning structure looks like. It's for our 61B MOS. You can see not only the natural 20 and 30 level groupings, but the accumulation of knowledge that ought to make the difference between an E-3 and E-6.



Item 14 also could stand a few words. We have found we need to panel in several ways. A panel to us is either a routine IPR to make sure check marks are hit; or a session with DEV for our Director of Evaluation to tell us that what our task forces have done has been done properly; or a panel of subject matter experts to be certain we are still on track; or all of our senior managers sitting as a panel for policy direction. I can't objectively state that anyone of those panel forms --- process verification by evaluation, DTD periodic management review, key-point subject matter verification, or policy review --- is most important. However, if I were forced to choose, I would pick process verification by the DEV as the key to a quality product.

Item 15 also needs expansion. As we look at the objective of our training developments mission, it is production of a training system. Hence, all those good documents we schedule and contract for - SM, CM, JB, SQT's, ACC's, TEC, etc., - are sub-sets of that training system, they are by-products. Here's a little lesson we learned in the commercial world about by-products of curriculum development.

We learned early that developing a training system is not unlike any other software and some hardware production systems. By-products are great profit sources if you treat them as such.

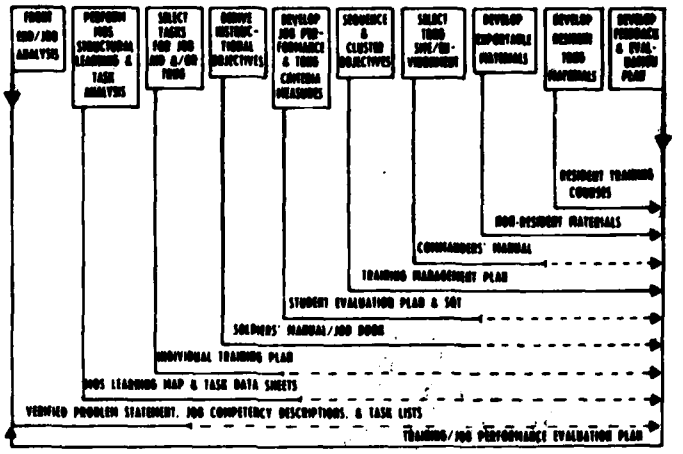
IN A PRODUCTION BUSINESS, YOU LOSE MONEY WHEN BY-PRODUCTS ARE FORCED OUT OF NATURAL SEQUENCE.

OBJECTIVE:
LET THE SYSTEM NATURALLY PRODUCE BY-PRODUCTS.

But by their nature they are produced as natural fall out of a production system. For instance, daily newspapers make handsome profits selling glossy photographs to readers, but not until the paper is published and distributed. Wilson Meat Packers makes handsome profits selling leather for shoes and baseball gloves - but only as a part of making a steer into steaks. And Hormel makes handsome profits selling bristle to brush makers, but not until the bristle becomes available as a result of processing a hog for meat. Dupont makes handsome profits selling management and maintenance training courses and pamphlet materials. But only because they accumulate those products as part of fulfilling other needs. Our training products development system is such that soldier's manuals, job books, commander's manuals, etc., will naturally accumulate as by-products of the working system if we let them do so. This next chart illustrates a product development sequence.

The sequence of actions that you see here is one that we are considering and trying to time for maximum return on our resources.

PRODUCT DEVELOPMENT SEQUENCE



It is somewhat different from the one you are used to seeing. Please don't react to the difference, because that sequencing across the top is not very significant to this discussion. What is significant is that we are trying to identify those points in the system where we will have accumulated all the information to produce one of our contracted items naturally - as a by-product.

Within the task force structure, a SME should be assigned as "keeper of the CM" or "keeper of the JB" or "SQT specialist." That person plugs the information into form blocks as the information is available from the system, as a result of the daily activities of trying to write a training course. When the information for a product is complete, the product is complete and ready for finishing. The SME then gives it to the task force writer/editor, who does the final crosswalks, rewrites what needs to be, reconciles format, and sends it off to the coordinating and control team boss for initials and draft typing for final in-house coordination and management approval.

Thus we have put another product on the street. And the resources invested in the item are only those of finishing the item; the resources invested in the system to produce a resident training course have naturally produced all the basic information for a by-product.

Gentlemen, what we have told you about are ways in which we are trying to reduce our interface losses through task force organization, and trying to reduce our investment in TD resources through clarification of by-product/product relationships.

I thank you very much for your attention. We have a few minutes left and either Colonel Rudd or I will answer questions if you have some.

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